

AN EXAMINATION OF THE INFLUENCE OF
ATHLETIC PARTICIPATION ON
COLLEGE ADJUSTMENT

By

NICOLAS A. STOWERS

Bachelor of Science in Kinesiology
East Central University
Ada, Oklahoma
2010

Master of Education in Sports Management
Southwestern Oklahoma State University
Weatherford, Oklahoma
2012

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Dissertation Approved:

Dr. Mary Jo Self
Dissertation Adviser

Dr. Bridget Miller
Member

Dr. Penny Cantley
Member

Dr. Edward Harris
Outside Member

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Abstract: College students are faced with adjustment as they enter the new and unfamiliar environment. Strategies of adaptation are developed, some of which are positive and some less positive. Student-athletes have an additional role of maintaining academic eligibility while simultaneously participating at a high level of competition. This study explores differences that might exist in adjustment to college between the student athletes and the non-student athletes. A closer examination of the relationship between athletic participation and the differences between race/ethnicity and gender allows for better decision making for university personnel regarding student athletes' needs. In this way, institutions could proactively respond to these needs and perhaps improve retention rates as well as the level of satisfaction with the overall college experience. The purpose of the study was to explore the relationships between race/ethnicity, gender, and college adjustment of student-athletes compared to non-student-athletes. The complex interactions in the academic, social, personal/emotional and goal commitment/institutional attachment arenas were examined. Overall 215 Student Adaptation to College Questionnaires (SACQ) were completed by student-athletes and non-athletes at two regional universities in Oklahoma. Of the 215 participants, the number of completed responses was different by survey subscale: demographic 215, academic subscale 199, social subscale 138, Personal-emotional subscale 206, attachment subscale 207, and the full-scale SACQ 131. Findings revealed gender, race/ethnicity, and athletic status were strongly associated with college adjustment and significant interactions and main effects were related to scores on college adjustment. Implications and recommendations for future research are discussed.

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CHAPTER I

INTRODUCTION

Enrollment in college is a typical step to becoming an adult after high school. In fall 2016, some 20.5 million students were expected to attend American colleges and universities, constituting an increase of 5.2 million since fall 2000 (National Center for Education Statistics). Typically, there are three avenues that each high school graduate chooses from at the conclusion of their secondary academic work. These avenues usually include enrollment in post-secondary education, enlistment in the military, or joining the workforce. Upon graduation from high school, the greatest proportion of individuals will opt to go straight into the labor market or go to college (Nguyen & Taylor, 2003). The attractiveness of college to most people is the enhancement of job opportunities and the associated financial benefits. College provides students additional job opportunities from the newly gained knowledge and credentials received after completing post-secondary education. Additionally, the financial benefits after college are traditionally positive, as the Census Bureau explained in 2002, high school graduates earn an average of \$1.2 over their adult life while bachelor's degree holders earn about million \$2.1 (Porter, Ericdigests.org). The 2012 report from the Census Bureau has since reported that the lifetime earnings of bachelor's degree holders have risen to \$2.4 million.

Adjustment and Retention of New Students

When students enter college, difficulties may arise in their adjustment to this new world. Adjustment to college is complex and includes several academic, social, personal/emotional, and institutional attachment/goal commitment factors (Baker & Syrik, 1984, 1999). As new students enter college, they must adjust to the environment before they can be successful. The ability of new college students to adjust to their environment is related to their overall success as a student, which impacts overall college retention. For freshmen and transfer students, it is especially difficult to adapt to their new surroundings.

Adjustment and Retention of Student-Athletes

All students face adjustments to college (Freeman, 2009). However, Freeman suggests a uniqueness of a particular group of students when he states, student-athletes who enter colleges and universities encompass a unique population, as they have a variety of academic, social, and athletic expectations (2009). This group of students may face additional challenges, as they seek to perform well in the classroom and on the playing field. While research has shown that student adjustment has a strong relationship with academic performance and graduation (Melendez, 2006), less is known about the relationship between college student adjustment and the student-athlete experience and whether or not it is different than the adjustment required for students who are not involved in intercollegiate athletics.

Particular interest in the student-athlete population has recently surfaced, likely due to overwhelming media coverage of college sports, as well as the high demands

placed on these athletes. Being a student-athlete can be challenging, as they struggle with the newly discovered independence, development of new social groups, and planning for life after athletics, all occur at the same time (Jordan & Denson, 1990). To help with these demands, student-athletes are provided with a strong support system that helps them monitor progress and stay on track. It is possible though that these demands can also help to build resiliency and may allow student-athletes to become more tolerant to the changes in their lives.

Statement of the Problem

When considering strategies for retaining students, colleges and universities have identified the cumulative college experience as a major factor in the success and graduation of students. This cumulative experience, composed of institutional, personal and social attributes, is fundamentally important to the success and retention of the student (McFarlane 2014; Thomas 2002). Retention has evolved as a topic of discussion as our interpretation of student retention has altered as we consider the role that the campus environment plays in students' decisions to stay or leave the institution (Tinto, 2016).

All students are faced with adjustment demands as they enter the new and unfamiliar college environment. Strategies of adaptation are developed, some of which are positive and some negative. Student-athletes have an additional responsibility of maintaining academic eligibility while simultaneously participating at a high level of competition. While athletic participation certainly provides challenges for the student-athletes, it can also positively impact the character of the student-athlete above and beyond the typical college experience. Carodine, Almond, and Gratto (2001) identify the

skills student-athletes gain while meeting the demands of athletic eligibility; such as career decision making, establishing personal values, creating relationships, developing self-esteem and integrity, and gaining interdependence and autonomy, in addition to the high level of commitment and opportunity to earn a degree while participating in intercollegiate sports.

Part of the adjustment process for the athlete is the development of “athletic identity.” Brewer, Van Raalte, and Linder (1993) believe athletic identity is composed of both positive and negative factors, which is defined as the degree of athletic role in which an individual identifies. However, when athletes no longer perform, this identity may cease to exist and could possibly affect the experience and retention outcome. As indicated by Melendez (2006), sport performance and self-esteem were linked together in individuals who have developed a strong athletic identity, placing highly perceived importance on sport.

Graduation rates for student-athletes have continued to improve over the past two decades, yet research examining the effects of sport participation on college adjustment is limited (Melendez, 2006). The current study examines differences that are perceived to exist in adjustment to college between the student-athletes and the non-student athletes. A closer examination of the relationship between athletic participation and college adjustment, race, gender, ethnicity as well as the resulting impact on athletic identity when no longer competing, would allow for better decision making about student-athletes’ needs. In this way, institutions could proactively respond to these needs and perhaps improve retention rates as well as the level of satisfaction with the overall college experience. The current study will assist educational leadership at institutional, state, and

federal levels in a time of diminishing resources at all levels. Resources can then be targeted to areas which would potentially have the greatest impact.

Purpose of the Study

The purpose of the study is to explore the relationship between race, gender, ethnicity, type of sports participation and the college adjustment of student-athletes compared to non-student-athletes. The complex interactions in the academic, social, personal/emotional and goal commitment/institutional attachment (also referred to as Attachment) arenas are examined as well as the cultural background of the participants.

Research Questions

1. Do differences in the area of college adjustment exist between students and student-athletes in the following areas:
 - a. Academic Adjustment?
 - b. Social Adjustment?
 - c. Personal-Emotional Adjustment?
 - d. Goal Commitment/Institutional Attachment?
2. Do differences in the area of college adjustment exist between students and student-athletes in the overall college experience?

Theoretical Framework

In 1975, Vincent Tinto developed a model presenting new ideas to understand retention and attrition in the college process. The model, known as the Theory of Student

Retention, describes the idea of institutional departure, offering that students persist when integrated well into academic and social systems of a higher education institution and can adjust to the college environment through the influences within these systems. Since its development, numerous revisions have been made to the model to better reflect student departure and express the process of departure as it occurs in higher education (Tinto, 1993). If adjustment to college is negative, the overall experience may lead to institutional departure. Tinto's theory serves as the framework for the study, tying together the areas of student-adjustment and student influences.

Theory of Student-Retention

Various terms have been used for this theory such as “theory of institutional departure,” “theory of student departure” or “theory of institutional commitment”. In this study, the researcher will use the term Tinto's Theory of Student Retention. The theory is comprised of six parts: (1) pre-entry attributes, (2) goals and commitments, (3) institutional experiences, (4) personal/normative integration, and (5) a second set of goals and commitments, which result in (6) the outcome (Tinto, 1993). See Figure 1 for a view of the six levels of the theory at a glance. The first level, pre-entry attributes, examines the background of students, including family background, individual attributes, and pre-college schooling. The second level is the goals and commitments that the college student already possesses when they arrive on the college campus. The college experience, which is the third level in the theory, includes two systems: an academic system, representing grade performance and intellectual development, and a social system of peer-group interactions and faculty interactions. The fourth level is the

personal/normative integration that occurs during the college experience. Finally, the fifth level is the resulting goals and commitments that are developed over the life of the college experience. The outcome that results from either a positive or negative college experience is the decision to remain in college or drop out. This outcome is the sixth area of the theory and is the result of the relationship between all of the five areas of the theory. This area is not measured in this study. Due to the population of currently enrolled students, there is no way to measure the scores of students who have completed college, therefore outcome is not considered.

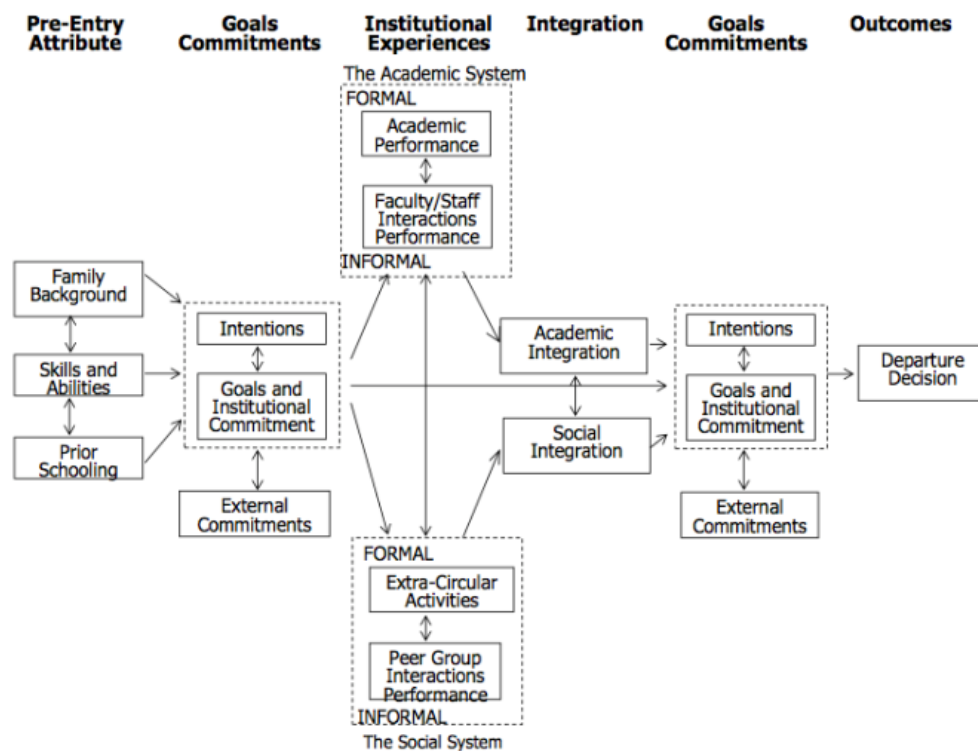


Figure 1: Tinto's Model of Institutional Departure. Adapted from "An expansion of Tinto's model to include student-athletes: A study of an exploratory measure," by Schutt, D. A., Jr. (1996).

Tinto's model has gained momentum as a popular theory when examining student departure. As indicated by more than 400 citations and 170 dissertations, Tinto's theory has had a profound impact on research (Braxton, Sullivan, & Johnson, 1997). According to Marx (2006), Tinto's theory examines the individual's dedication to the institution and the level of commitment which affects the academic success of that individual. The original goals and commitments come into question as the experience begins. Tinto describes the process as goal and institutional commitments that are both important predictors of and reflections of students' experiences, disappointments, and satisfaction in college.

As an advocate for improving retention, Tinto (2006) defined three areas to address and implement in higher education. First, the understanding of why students leave and what can be done to make them stay (Tinto, 2006). Second, implementation of programming, identifying the effective action and implementing it in ways that will enhance student retention (Tinto, 2006). The third area is the lesson of student income. Low-income students have more access to higher education and gaps in access between low and high-income students have decreased, although a gap still exists between well-to-do and poor students in four-year degree completion (Tinto, 2006).

Measurement Instrument. The instrument used to examine the framework model is the Student Adaptation of College Questionnaire (SACQ), which is composed of four subgroups: academic adjustment, social adjustment, personal/emotional adjustment, and goal commitment/institutional attachment. "Goal commitment/institutional attachment" is also referred to as "attachment." Table 1 presents an alignment of Tinto's model and the SACQ at each stage.

Table 1

Tinto's Model and SACQ Comparison

Tinto's Model (6 Areas)	SACQ (4 Subgroups + Demographics)
Pre-Entry Attributes	Demographic Survey
Goals and Commitments	Academic Adjustment
College Experience (Academic and Social)	Social Adjustment
Personal/Normative Integration	The Personal/Emotional Adjustment
Revised Goals and Commitments	The Goal Commitment/Institutional Attachment
Outcome	Will not be measured in the study

Note: Relationship of Tinto's model and the SACQ instrument.

The areas of Tinto's model align appropriately with the Student Adaptation to College Questionnaire (SACQ) instrument. Goals and commitments, as well as the institutional experiences and integration, are measured by the SACQ. As for the pre-entry area of the model, a demographic form is included with the SACQ, which gathers information including educational backgrounds and family history. The outcome phase is not measured, as the students are not yet college graduates.

Definitions of Key Terms

Adjustment: The process of adapting or conforming oneself to new surroundings, achieving a mental and behavioral balance between one's own needs and the demands of others (Webster's Collegiate Dictionary).

Attrition: A longitudinal process in which an individual does not persist to graduation.

Intercollegiate Athletics: Represents the highest level of athletics in college. Athletes and teams represent their schools in competition against other institutions of higher education. These programs are represented by institutional support financially for facilities, travel, coaching staffs, academic support, and athletic scholarships (Cornelius, 1995).

Involvement: The investment of psychological and physical energy in the collegiate environment (Astin, 1985).

NCAA Life Skills: A well-known collaboration between the national office, the 1,200 member institutions, the affiliate organizations and conference offices, is committed to the total development of student-athletes, preparing them with "life skills" (a skill that is necessary for participation in everyday life) that are used throughout the college experience and after graduation (NCAA.org).

National Collegiate Athletic Association (NCAA): The National Collegiate Athletic Association is a member-led organization dedicated to the well-being and lifelong success of college athletes (About the NCAA, 2016).

NCAA Division II: An intermediate-level division of competition, which offers an alternative to both the highly competitive level of intercollegiate sports offered in Division I and the non-scholarship level offered in Division III (National Collegiate Athletic Association, 2016).

Non-Athlete: Any college student who does not compete in intercollegiate athletics or belong on a roster for a varsity sport.

Retention: A longitudinal process in which an individual persists to graduation.

Student-Athlete: A participant in an organized competitive sport at an intercollegiate level who is sponsored by the institution in which enrolled (National Collegiate Athletic Association, 2014).

Limitations and Assumptions of the Study

The research questions seek to examine the adjustment of student-athletes as compared to non-athletes in the area of college experience. This study collects data from students at two Division II universities in Oklahoma, limiting generalizability to other institutions and levels of NCAA athletic participation. The demographic information obtained may not represent all students at other universities, and also does not represent all students at that university but rather just represents those sample participants. The assumption is made that the availability of students at both universities allows for a wide range of students from different demographics to be represented in the study.

Significance of the Study

Student-athletes have been a hot topic among higher education professionals and the media, as the spotlight focuses on college athletics. Authors such as Vincent Tinto (1975) believe that influences in college shape the overall experience of students, thus allowing higher adjustment, leading to retention and overall success. Social and academic influences could play contributing roles in college adjustment and the student experience.

Summary

Adjustment to college is a challenge for many students (Melendez, 2006). While adjustment of student-athletes is also an issue, few studies have examined the adjustment of college athletes. This study seeks to address the gap in research by studying adjustment of student-athletes. By examining the academic adjustment, social adjustment, personal-emotional adjustment, and attachment to the institution of student-athletes compared to non-athletes, the current study provided information that has had little examination in past research, as students of all academic classifications were studied. The examination of student adaptation will likely result in findings that will help experts identify the problem areas in student adaptation, therefore resulting in higher retention rates and allowing resources to be distributed appropriately. The study is using Tinto's model as a theoretical framework. The SACQ instrument and Tinto's theory will align together to measure the levels of adjustment throughout the student-athlete or non-athlete's tenure in college.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This chapter provides a brief summary of research on college student adjustment as it relates to student-athletes. While specific research of the relationship between college adjustment and being an athlete has been limited, prevalent research has examined whether college experience is a factor in the overall success of student-athletes both in and out of the classroom. An overview of the process of college enrollment, including retention for non-athletes and student-athletes is addressed, and research regarding college adjustment is discussed. The literature review will present factors such as finances and student support that might affect the academic outcome of student-athletes and non-athletes.

In addition, an in-depth review of the SACQ instrument is presented in the literature review. As detailed in the review, the SACQ is a commonly utilized instrument for the adjustment of college students and has been shown to measure variables better than other instruments used that relate to the topic. In addition, the particular instrument is included in many studies regarding student retention and psychological well-being.

Enrollment in College

Social, psychological, and academic aspects, are rarely the focus when high school students make the decision to attend college, but these factors do exist when considering enrollment in college. The ability to adapt to new environments is not typically considered when measuring student success and potentially retention. Recently increased attention has been placed on adjustment as a predictor of retention (Melendez, 2006). The adjustment could affect the college experience, which can determine retention.

College Student Retention

Theories behind student attrition date back to the 1960's and focus on individual attributes (Tinto, 1993). In the 1970's, due to the work of researchers such as Corefield and Ogston (1973), the focus expanded to include the relationship between individual attributes and student persistence. Hutt (2012) explained that a large population of high school graduates enroll in post-secondary education, yet according to the Education Commission of the States, less than seventy percent of students graduate college within the five to six-year timeframe.

The concept of college dropout remains an issue in higher education. Tinto (1993) concluded that 75% of college students leave within the first two years. This issue is ongoing and is discussed in higher education literature, as the experience of college students is considered a factor in the retention outcome. A more recent study by Stinebrickner and Stinebrickner (2014) found that the percentage of dropouts are still

consistent with Tinto's findings, with 77% of students dropping out. Researchers explain:

Despite a multitude of social, academic, and emotional stressors, most college students successfully cope with a complex new life role and achieve academic success. Other students are less able to successfully manage this transition and decide to leave higher education during or at the end of their freshman year.

(DeBerard, Spielmans, & Julka, 2004, p. 1)

Social support has been an influential factor in the quality of college life. DeBerard, Spielmans, and Julka (2004) discovered that social support was the most considerable predictor of success, even at times where stress was high.

The Relationship Between Adjustment and Retention. The relationship between adjustment and retention has been studied in the exploration for higher student success. According to Gerdes and Mallinckrodt (1994), our understanding of the decision to leave college could be broadened by the examination of college adjustment and students' expectations. Gerdes and Mallinckrodt (1994) conducted a study to examine the areas of adjustment as they relate to student retention over a six-year period, and to identify a proactive approach at intervening with students who are at risk of dropping out. Using the SACQ instrument, Gerdes and Mallinckrodt (1994) discovered that adjustment and integration into the social aspects of college play as important of a role as academic factors in student retention, therefore dropout can occur because of a mixture of academic, social, and emotional factors.

In a dissertation researching influences in college, Hutt (2012) studied the effects of demographic, environmental, and psychological variables on retention, which allowed

them to identify a relationship between self-acceptance and the decision to leave. While many different factors contribute to student retention, the students' environment appears to be most consistent with research findings. Hutt (2012) found that there was a relationship between environmental and psychological variables affecting retention, but pondered that future research in areas relating to adaptation (adjustment) to the university would be more helpful in determining retention.

As conducted in the research on student retention, many studies have discovered that the level in which a student adjusts to college, as well as the college experience, plays a factor in the retention of college students. The social and academic influences that students encounter shape the perception of college for new college students. As discussed by Tinto, these factors often influenced by pre-college schooling and diverse background of each student.

Student-Athlete Retention/Attrition. The student-athlete population has gained more attention recently as the media and literature have become more involved in college athletics and the personal lives of student-athletes. Student-athletes are rewarded scholarships and celebrity status for their hard work on the playing field. NCAA policies strive for high graduation rates among all member schools. Of all NCAA student-athletes, more than eight out of 10 will earn a bachelor's degree, and more than 35 percent will earn a postgraduate degree (NCAA.org, 2016). However, the life of a student-athlete can prove to be difficult as other responsibilities are weighing on them. Melendez (2006) explained that student-athletes still appear vulnerable to college adjustment difficulties, despite recent data indicating that athlete graduation rates are generally higher than non-athletes. Dual roles are often assumed that make adjustment

more difficult for student-athletes. However, the social influences that athletes experience could be a contributor to their academic success and high graduation rate. The uniqueness of student-athletes is often a supporting factor for student-athlete retention; such as the abundance of personnel that exist in most athletic departments, that provide more one-on-one attention, which may make them feel more emotionally attached to the institution.

The NCAA and Divisions of Play

The National Collegiate Athletic Association (NCAA) is a member-led organization dedicated to the well-being and lifelong success of college athletes (NCAA.org, 2016). Since 1906, the NCAA has been a thriving industry driven by competition and academics. The NCAA's membership has grown from 28 members in 1906 to more than 1,287 colleges and universities, conferences, and sports organizations (Pedersen & Thibault, 2014). In addition, the NCAA provides annual financial aid to Division I and Division II institutions. The NCAA awards scholarships and grants for further education to athletes who demonstrate outstanding academic and athletic achievement. Member institutions are also awarded grants to improve academics and enhance campus culture. In addition to the \$2.7 billion allocated by schools to fund athletics scholarships, the NCAA awards more than \$10 million in scholarships and grants annually to student-athletes and member institutions (NCAA.org, 2016). NCAA expressed that receiving athletic aid in college is not easy, as only two percent of high school athletes are awarded athletic scholarships for college sports. Of college athletes, very few go on to play professionally.

The NCAA stems from three separate divisions: Division I, II, and III. These three divisions are separated into categories and are usually distinguished by departmental budget, game attendance, seating capacity of athletic facilities, number of sponsored sports, and the program's ability to offer athletic aid (Pedersen & Thibault, 2014). Division I is the largest and manages the largest athletics budgets (NCAA.org, 2016). The average budget for schools in the Football Bowl Subdivision is \$62.2 million (NCAA.org, 2016). While Division III has the highest graduation rate among athletes, it is much smaller and does not offer athletic scholarships. Division II is the mid-sized division and offers athletic scholarships while maintaining a large budget. However, the media coverage and competition in Division II does not compare to the intensity at a Division I school. Similarly, division II and III student-athletes are less likely to turn professional in their sport as compared to Division I athletes. Also, the talent level is typically higher in Division I, which is able to recruit the most elite players in the country. Contributing to the popularity of Division I sports, sport participation at Division II and III institutions focus more on the experience of the college environment, while entertainment and fan experience is the focus of Division I sports (Huffman, 2013).

Support for Student-Athletes

The NCAA offers academic services, financial assistance, personal and professional development, and overall wellness. As the complexity of being a student-athlete increase, athletic departments are making cooperative efforts to provide assistance. The NCAA is committed to the excellence of both athletics and academics, which creates a vocation in which students may balance their social, academic, and

athletics experiences (Freeman, 2009). Support systems exist for student-athletes, which can help them adjust to college life. Life skills (including leadership development) and academic support are some of those support systems discussed in this section.

Life Skills

Most athletic departments make a point to focus on the overall development of student-athletes, creating a better experience and preparing them for life after sports. Good (2015) articulated the need for this type of development supporting academic, social, and athletic success for these student-athletes by explaining that academic and athletic personnel at Universities may expedite the learning and development of student-athletes, contributing to their success. The overall comradery involved in being a student-athlete could contribute to the influence enough to motivate them to stay and graduate. Athletic seasons allow development of athletes as engage with peers and build leadership skills, while also working with teammates to achieve a common objective (Snodgrass, 2015).

There are many programs to support student-athlete development, such as the “Life Skills” program offered by NCAA institutions. The life skills program is committed to the total development of student-athletes and prepares them with important skills that are used in college and after graduation. Life skills are implemented in conference offices and member institution athletic departments. In addition to life skills, many athletic departments are adding full-time administrators to help guide these student-athletes.

Leadership Development. The NCAA national office employs a department specifically for leadership development. This department hosts several leadership development forums and workshops, to enhance the leadership skills of student-athletes across the United States. Leadership development can make a lasting impact on the psychological growth of student-athletes. Athletes are often placed in challenging situations which allow them to apply their leadership skills early in life (Snodgrass, 2015). In intercollegiate athletics, student-athletes have the opportunity to practice and develop leadership skills in everyday life. Astin (1993) indicated that leadership cannot be taught; leaders must be able to gain leadership skills through real-life settings.

Leadership development creates long-lasting skills that help mold future leaders. For student-athletes, this type of skills development could affect their college experience. If applied to life early in college, the relationship between adaptation and student-athlete development could become stronger. Leadership development is a piece of the puzzle that is designed to assist student-athletes in college.

Academic Support

Student-athletes are also provided targeted academic support. Although these same opportunities are available to all students, if an athlete wishes to remain eligible, they must comply with academic requirements determined by the NCAA and the institution. An external compliance support system based on NCAA requirements is fundamental to the college experience. Student-athletes can access one-on-one focused attention, close monitoring of academic progress by coaching staff, and required study halls. In addition to this support, athletic departments often have full-time academic advisors that are on standby to assist in the advisement and enrollment process (Freeman,

2009). Academic advisors are commonly experts in NCAA compliance and eligibility standards. Many athletic departments have a well-structured student services unit with several academic advisors, allowing student-athletes to have a specific contact in case academic support is needed (Freeman, 2009).

Adjustment to College Life

General Student Population

Students entering college face adjustment issues, as they enter a transitional period in their lives, and for many, it is their first time they have ever been on their own. This is a crucial time of maturity for these individuals. The focus on the first two years of college, where most of the integration takes place is reflected in the volume of research done on the first two years of college. Despite the work by Pascarella and Terenzini (1980), more research has been conducted on the first two years (freshmen and sophomore) levels of college than on upperclassmen. This presents a need for more studies to be conducted on upperclassmen (juniors and seniors) or all academic classifications (freshmen, sophomores, juniors, and seniors).

Student-Athlete Adjustment

Student-athletes are a population among all college students who are studied in research and have gained more popularity to researchers over the last several years. The adjustment of this group has been compared to the student body in research to find better practices for overall student development. Much research has been undertaken on the transition of students and student-athletes entering the first two years of college.

Melendez (2006) studied the transition of student-athletes to college life and measured their adjustment to college life during the freshmen and sophomore years, and found that student-athletes scored higher on academic adjustment and institutional attachment than non-athletes. However, the focus on junior and senior athletes' college experiences was not included by Melendez in the study, nor has it been deeply measured by other researchers.

The role of academic, athletic and social integration play in the first-year freshman student-athlete experience has been explored. McFarlane (2014) discovered that social, academic, and athletic factors did play an important role in the student-athlete experience, as the different levels of development were utilized among the average student-athlete, specifically in that of the population of first-year freshmen. Once again, no studies measuring the overall experience of student-athletes through all four years were found.

Playing for the Competition, Not the Education. While the divisions in the NCAA may differ, the athletes who are competing in these programs do share similar goals and expectations. Often athletes of all competitive levels, where student-athletes are participating in revenue-producing sports seem to attend college solely on their opportunity to play sports, and not to take care of the educational opportunities that are offered (Freeman, 2009). Individual motivations for being a student-athlete are varied just as the individuals themselves are.

Assessing College Adjustment in Student-Athletes

Student Adaptation to College Questionnaire (SACQ). The SACQ is an instrument developed by Baker and Siryk (1989) to measure college student adjustment. The instrument assesses overall adjustment to college, detecting problems, guiding intervention, and promoting retention (Baker and Siryk, 1989). This particular instrument is relatable to the theoretical framework for this study, Tinto's theory of student retention, which both focus on and promote student persistence and success by measuring adjustment and the college experience.

The SACQ (Baker & Siryk, 1989a, 1999) is a 67-item self-report questionnaire, which takes about 15-20 minutes to administer. The SACQ is divided into four subscales: academic adjustment, social adjustment, personal/emotional adjustment, and institutional attachment. For each item, students respond on a 9-point scale, ranging on a continuum from "applies very closely to me" to "doesn't apply to me at all." Most researchers also utilize a demographic questionnaire to gain background data. The SACQ is a cost-effective way to detect adjustment issues early in the student's college career and provides guidelines for subsequent intervention (wpspublish.com, 2016). It is particularly useful in identifying potential dropouts (wpspublish.com, 2016).

Many of the studies conducted on student-athlete adjustment have used the SACQ as the research instrument. Downey (2005) conducted a study that investigated the adjustment process of freshmen student-athletes and non-athletes at a large NCAA Division I university and used the SACQ (Baker & Siryk, 1999) and a demographic questionnaire to obtain results. Downey found lower commitment levels and less

attachment to the university among student-athletes as compared to non-athletes but found no differences between genders.

The SACQ is a popular measure in the field of higher education and has been used in numerous studies to identify student adjustment levels (wpspublish.com, 2016). It has been known to predict and help lead efforts to prevent student dropout (wpspublish.com, 2016). The researcher has chosen this instrument of measurement due to the studies that have been conducted that are similar to this one, using several different populations. For example, Ayres (2007) conducted a study examining the adjustment of Greek students compared to non-Greeks and found high adjustment in Greek students when using the SACQ. Melendez (2006) utilized the SACQ in a similar study comparing student-athletes and non-athletes and found higher social adjustment in student-athletes than their non-athlete peers. Along with the SACQ kit, which was purchased by the researcher through Western Psychological Services (WPS), a comprehensive list of the studies conducted that have used the SACQ was provided.

Krotseng (1992) researched the comparison of social support within the theoretical framework, indicating that similarities exist between the SACQ social and academic subscales and the intellectual and social integration (involvement) included in Tinto's theory. Academic discouragement and isolation seem to be an important factor in student departure (Tinto, 1987). Therefore, most students are believed to drop out due to a social disconnect with other students.

Abe, Talbot, and Gellhoed (1998) conducted a study using the SACQ on international student adjustment. The researchers discovered that international students experienced social adjustment issues as one of the biggest problems. However,

international students who had been in the United States longer, have had previous opportunities, or who have ties to the U.S., proved to be more adjusted.

In another study measuring the effects of social class on college adjustment, Ostrove and Long (2007) utilized the SACQ along with the College Self-Efficacy Instrument (CSEI) (Solberg, O'Brien, Villareal, Kennel, et al., 1993), as both questionnaires have academic and social adjustment related subscales. The researchers found that class background was related to college class status, but college experience was found to be more prominent in the adjustment of students. While social class did exist as a factor of college adjustment, the social and academic experiences allowed for a sense of belonging for students of all social classes.

In measuring the dynamic nature of student persistence, Kennedy, Sheckley, and Kehrhahn (2000) used several instruments to measure adjustment in college students. In addition to the SACQ, Kennedy, Sheckley, and Kehrhahn (2000) utilized three other instruments to gather student persistence as it relates to adjustment. The first instrument was the Help-Seeking Inventory (Karabenick & Knapp, 1991), which assesses student's tendencies and attitudes toward seeking assistance in terms of seeking help from formal sources or relying on their own abilities. The next instrument was the Adaptive Style Inventory (Kolb & Wolfe, 1981), which measures an individual's ability to flex their styles for grasping and transforming information in response to the "pull" of different situations. The last instrument was the Academic Self-Efficacy Scale (Owen & Fromm, 1988), which measures an individual's confidence in organizing and carrying out typical tasks in school.

Validity and Reliability of the SACQ. Beyers and Goossens (2002) tested the SACQ for concurrent and predictive validity in a study, as the instrument measured the differences between European and North American systems of higher education. Baker and Siryk (1984, 1999) assumed that adjustment holds a variety of demands and is multifaceted, thus leading to the four separate aspects of the SACQ. After analyzing data, Beyers and Goossens (2002) found the instrument to be reliable and valid and discovered that the four subscales of the SACQ make a more distinctive contribution when measuring college adjustment than the full-scale SACQ score.

Hutt (2012) utilized the College Persistence Questionnaire (CPQ) as a predictor of attrition, as well as the SACQ, Ryffs Psychological Well-Being (PWB) scale, and a demographic questionnaire. Each instrument intended to measure psychological and environmental influences on student attrition. Hutt (2012) discovered a relationship between psychological and environmental influences and student retention.

Melendez (2006) found the SACQ instrument to be useful, as a study to measure the influence of athletic participation on college adjustment was conducted. Findings indicated that student-athletes reported higher scores in the areas of academic adjustment and general institutional attachment than non-athletes (Melendez, 2006). These findings are theorized to have contributed from support programs offered to student-athletes.

In addition to the SACQ, researchers have measured the adjustment of student-athletes by using a number of instruments. The Student Developmental Task Inventory (SDTI; 1983), which analyzes 1) establishing identity and 2) developing purpose. According to Downey (1993), student-athletes have justification to be mixed up about

what their identity, purpose, and roles are in college, due to the time spent with involvement in athletics, academics, and extra-curricular activities required of them.

College Adjustment Scale (CAS). One instrument that has been used to examine student-athlete adjustment is the College Adjustment Scale (CAS). The CAS is a 108 item self-report with nine subscales: anxiety, depression, suicidal ideation, substance abuse, self-esteem problems, interpersonal problems, family problems, academic problems, and career problems. Test takers are asked to respond to the accuracy of each item as it pertains to them, within a four-point Likert type rating scale ranging from Not At All True to Very True (Drum, Ladda, Geary, & Fitzpatrick, 2014). Drum, Ladda, Geary, and Fitzpatrick (2014) used the CAS to examine college adjustment between athletes and non-athletes at a division I university. The researchers measured adjustment for 108 male and female athletes and non-athletes. Results from the study indicate subscales of interpersonal problems (IP), suicidal ideation (SI), substance abuse (SA), and family problems (FP) all had differences that were significant when comparing non-athletes to student-athletes (Drum, Ladda, Geary, & Fitzpatrick, 2014). The male group of non-athletes had more challenges adjusting to college than their athlete peers. While there were substantial differences in the challenges between athletes and non-athlete, more information was warranted to define why there are differences in adjustment between these groups.

Student-Athlete Identity

The athletic identity that student-athletes often develop has been another factor that could play a role in the adaptation process and their overall success. It is difficult for

any athlete to quit a sport, but it could be even harder for those who have developed the identity of a student-athlete. Moorland-Bishop (2009) explained, athletic identity is proven to strengthen over time and the extent of athletic role that an individual identifies, making the identity more prominent in the athletes who have competed longer or at a higher level. This could prove more difficult for athletes who attach to competition. Individuals with strong athletic identity appear to place sport in the domain of high importance, which links sport performance to self-esteem (Melendez, 2006).

Other forms of identity have also been examined in literature. Arthur Chickering's identity development theory addresses the identity development of college students, and Spady's Empirical Model of the Undergraduate Dropout Process (1971) relates to students' dropout decisions. Chickering and Gamson (1987) identify seven principles promoting faculty-student interaction, to use when evaluating student retention and development.

Student-athlete identity or "athletic identity" has been researched as a crucial psychological factor that some athletes experience. When athletes no longer participate in sports, the result could be negative. Therefore, affecting the college success of that individual, which could lead to dropout.

Student Development and Involvement

Student involvement and development is often a highly researched topic that higher education professionals believe is a factor of success. The level in which students are involved in campus life may assist the student in developing socially. If successful,

the social adjustment of a student might be positively affected by the high level of involvement they have experienced.

A principle theory of student development and involvement is Astin's (1984, 1993) theory of involvement. The theory of student involvement is similar to the dynamics of Tinto's student retention theory (Pascarella & Terenzini, 1980). Student involvement also focuses on the student experience as a measure of persistence leading to retention or attrition. Astin's Involvement theory is cited as a factor in the development process:

Astin suggested five different reasons for development: (1) involvement means the investment of physical and psychological energy in different objects that range in the degree of their specificity; (2) involvement occurs along a continuum, with different students investing different amounts of energy in various times; (3) involvement includes quantitative and qualitative components; (4) the amount of student learning and personal development is directly proportional to the quality and quantity of involvement; and (5) the effectiveness of any educational practice is directly related to the capacity of that policy or practice to increase involvement. (Milem and Berger, 1997, p. 387)

Theoretical Framework: Tinto's Theory of Student Retention

Tinto (1975, 1987, 1993) hypothesized that interaction between students and the environment over time contributes to student retention or attrition. As explained by Gold (1990) a student's sense of commitment and degree of integration (social and academic)

may be a predictor of student retention. Tinto's theory of student retention also referred to as "Theory of Institutional Departure" and "Theory of Student Attrition," is featured as the framework for many studies exploring student retention, student integration, and student experience. The idea of the theory is that preexisting and current influences, both academic and social, affect student persistence, which leads to graduation.

Several studies link together the SACQ instrument and Tinto's theory of student retention. In recent studies, common relationships appear to exist between Tino's theory and the SACQ. According to Downey (2005), the SACQ and Tino's model appear to have been developed concurrently but also independently, although the authors did not appear to be working together. Also, Kennedy, Sheckley, and Kehrhahn (2000), stated that Tinto's widely used theoretical models insist that 'integration' is associated with persistence. In addition, Baker and Siryk (1983, 1999) used their Student Adaptation to College Questionnaire (SACQ) to explore students' attachment levels to an institution, which were strongly correlated with persistence. Tinto's theory and the SACQ have presented strong relationships in literature. Both strongly represent the level of college student adjustment as it relates to student success and retention. Yet, most studies which use Tinto as framework and SACQ as an instrument only measure students within the early years of college. For this study, students of all academic years were measured, as will the relationship between athletes and non-athletes. Similar to the framework of Tinto, the SACQ can be utilized for students of all ages.

Financial Factors of Retention

Cost of Attendance in Colleges and Universities

With the cost of attendance in higher education rising and the budget shrinking, it is important to use scholarships and utilize financial support wisely. As per the Oklahoma State Regents for Higher Education (2017), the national mandatory tuition and fees rate was \$9,410 for undergraduate resident students at four-year institutions in 2016-16, while Oklahoma's rates were \$6,227, although those numbers in Oklahoma could increase within the next few years due to the current budget crises. With the budget shortfall in Oklahoma where the researcher is located, extra resources are not easily expended without careful consideration.

Financial Aid for Student-Athletes

In NCAA Divisions I and II, financial assistance in the form of scholarships is provided to student-athletes based on athletic performance, not necessarily academic performance. High athletic performance is often the requirement for this form of financial assistance. However, student-athletes must comply with minimum academic standards to be in "good standing" with the university. NCAA standards also require a 2.0 minimum GPA and full-time enrollment. In accordance with the NCAA Division II manual (2016), financial aid requirements for member institutions are as follows. A member of Division II shall annually provide financial assistance that equals one of the following:

(a) 50 percent of the maximum allowable equivalencies in four separate sports, at least two of which must be women's sports; (*Revised: 7/23/13*)

(b) 20 total full equivalency grants with at least 10 total full equivalency grants in women's sports; or (*Revised: 10/17/06, 7/23/13*)

(c) A total expenditure of \$250,000 in athletically related financial aid with at least \$125,000 in women's sports. (*Revised: 10/17/06, 7/23/13*)

Financial aid is comprised of Pell and State grants. A full list is available in NCAA Bylaw 15.2.5.1. Below is a chart of athletic scholarship equivalencies allowed for Rogers State University by the NCAA:

Table 2

Scholarship Allowances by Sport

Maximum Limitations Equivalencies for Men's Sports Sponsored by Rogers State University:	Maximum Limitations Equivalencies for Women's Sports Sponsored by Rogers State University:
Baseball 9.0	Softball 7.2
Basketball 10.0	Basketball 10.0
Cross Country/Track and Field 8.0	Cross Country/Track and Field 11.0
Soccer 9.0	Soccer 9.9
Golf 3.6	Golf 5.4

Cultural Differences in Student Adjustment

Studies have been conducted that use comparison in gender and racial differences as they relate to student adjustment. Theorists have implied that female and minority groups are more socialized and adhere to more individualistic view compared to male and majority groups (Cross & Madson, 1997; Oyserman, Coon, & Kemmelmeier, 2002). The potential relationships between these groups are important in the examination of college adjustment in students.

Summary

As shown in the review of literature, student adjustment in college is a topic vastly researched in higher education. Student adjustment in college is of most interest to those employed by a college as well as researchers. Pascarella and others argued that institutional attachment, personal development, and academic performance is a directly contributed to a student's decision to withdraw from college, serving as a factor of the educational outcome (Credé and Niehorster, 2012). Most research on the topic of student adjustment has derived from similar theories to support the need for more social integration within the college experience. Tinto however, focused on both social and academic integration as factors of institutional commitment and student success, as an important factor of development.

In this literature review, previous research on the SACQ instrument was also examined, including its use on college student retention studies. This stems from the adjustment that students receive in college. More extensively, the first two years of college has been a focus when conducting research on the college experience, while all

four years of undergraduate enrollment has rarely been researched. In regards to student-athletes specifically, the growing popularity of college sports has gained momentum and has placed more attention on the care and well-being of student-athletes.

The different divisions of play in college athletics were defined, as well as the support programs in place for students and student-athletes. The theoretical framework from Tino's theory works closely with social integration and student adjustment levels. In addition, athletic identity has been a topic of discussion when evaluating why student-athletes do or do not adjust well to college. In summary, the topic of student-athlete adjustment has had little focus and will lead to more information on best practices in support programs.

CHAPTER III

METHODOLOGY

Participants and Sampling

Population, Sample, and Sampling Approach

The population of interest for this study was student-athletes and non-athletes at the collegiate level, particularly those at sub-Division II levels. The sample comprised 200 students, with $N = 100$ for each group. This sample came from Division II students attending two different universities in Oklahoma (Rogers State University and East Central University). While several divisions exist within the National Collegiate Athletic Association (NCAA), the researcher had easy access to students (athletes and non-athletes) from the selected schools, thus giving the sample a convenience sample aspect. The sample also had a purposive element because it was deliberately drawn from the specific population of interest to the study. In addition to its convenience aspect for this study, Division II athletes served the study well because they are scholarship eligible (unlike DIII athletes) and they participate in a high level of competition, while not receiving as much media exposure as Division I athletes.

Recruitment Sites

This study used sampling with both convenience and purposive elements that included students from two research sites in four-year regional universities in Oklahoma. The researcher has personal connections in both institutions, which facilitated access to study participants. Advisors in both the academic and athletic departments assisted the researcher in sending out the surveys through the campus email system.

Retention for Student-Athletes vs. Non-Athletes. As per the office of academic accountability, the Rogers State University six-year retention rate shows that 41% of student-athletes graduated compared to 23% of the entire student body. In the past six years, retention rates have remained higher for the student-athlete population. The chart below shows the number of student-athletes graduating has increased from 2015 to 2016, providing the progress made in the last two years of reporting (see Table 3).

Table 3

RSU Graduation Rates According to Academic Accountability

<u>Spring 2013 Reporting (Cohort fall 2006)</u>	
All Students	19%
Student-Athlete	Athletics did not start until 2007
<u>Spring 2014 Reporting (Cohort fall 2007)</u>	
All Students	24%
Student-Athlete	71%
<u>Spring 2015 Reporting (Cohort fall 2008)</u>	
All Students	26%
Student-Athlete	32%
<u>Spring 2016 Reporting (Cohort fall 2009)</u>	
All Students	23%
Student-Athlete	41%

According to the office of academic accountability, the East Central University (ECU) six-year retention rate shows that 44% of student-athletes graduated compared to 34% of the entire student body who graduated. Retention rates have continued to grow for ECU student-athletes from 2008 to 2010. Additionally, the student-athlete rates have continued to remain higher than the rates of the student body (see Table 4).

Table 4

ECU Graduation Rates According to Academic Accountability.

<u>Spring 2015 Reporting (Cohort fall 2008)</u>	
All Students	34%
Student-Athlete	35%
<u>Spring 2016 Reporting (Cohort fall 2009)</u>	
All Students	36%
Student-Athlete	43%
<u>Spring 2017 Reporting (Cohort fall 2010)</u>	
All Students	34%
Student-Athlete	44%

According to the department of institutional research for each institution, Rogers State University has approximately 4,074 total students, 204 of those students are athletes. East Central University has 4,444 total students and 276 athletes. The proposed sample size for this study is 200 (100 student-athletes and 100 non-student-athletes). Two hundred participants are the goal number for the sample, as each survey is at the cost of the researcher (\$1.89 per survey), thus two hundred appears to be a reasonable sample and provides a strong confidence level. However, to account for the likelihood

that some participants would not complete the survey, the population was oversampled until the minimum target of 200 responses were recorded. Each person who participated in the study was entered into a drawing to win a chance to win one of four \$20 Amazon gift cards. The participants provided contact phone numbers where they could be contacted if they won the drawing. The numbers were asked for the last question of the survey, so the researcher only viewed the four numbers drawn. Four random responses were chosen and the numbers were called to reach the individual, and all numbers were deleted after the winners were contacted. After numbers were called, the gift cards were mailed or hand delivered to the address given. The NCAA compliance officers for each institution declared that no compliance rules were broken by providing incentives, as student-athletes had the same opportunities to receive an incentive than non-athletes.

Criteria for Study Participation

The purposive element of the study's sampling procedure was enabled by the use of specific criteria for inclusion. Student-athletes and non-athletes were chosen to represent the specific population of interest by requiring that they were:

1. Clearly classified as either student athletes or student non-athletes,
2. Currently students in a Division II four-year regional university in Oklahoma,
3. Classified at any level from freshman through Graduate,
4. Recruited through specified procedures by utilizing instructors, and academic and athletic advisors. These procedures are detailed below in the section on "Recruitment Procedures."

The margin of error should be between 1% and 10% to receive reliable results (Wiersma & Jurs, 2005). However, because the study was conducted at two institutions with convenient access to the researcher, the findings did not generalize the entire population of student athletes and non-athletes.

To this purposive/convenience sample, SACQ (Student Adaptation to College Questionnaire) surveys were sent to student-athletes and non-athletes until the target of 200 responses were collected (100 student-athlete responses and 100 non-athlete responses). Wiersma and Jurs (2004) stated that a sample of 200-500 surveys is typical for a thesis or dissertation, which typically have small subgroups. In this study, cost played a factor in limited sample size, \$1.89 per copy of the survey was spent.

Recruitment Procedures

Separate recruitment procedures were employed for student-athletes and non-athletes. Student-athletes were recruited through contact with athletic academic advisors, within the athletic departments of the participating universities. Recruitment was negotiated with the athletic departments at the Division II level schools. All classifications (freshmen, sophomores, juniors, seniors, and Graduate students) were offered a chance to take the survey. Non-athletes were recruited through a similar strategy. Non-athlete participants were recruited from undergraduate classes through researcher selected instructors on the campus of the universities participating in the study. Access to students was negotiated through university instructors and campus administration.

The participants were notified by email to complete the two-part survey, consisting of a demographic section and the SACQ. The researcher used academic and

athletic advisors to send the surveys to the email addresses for both of the two campuses. A follow-up email was sent after two weeks to all participants reminding them to take the survey. The surveys remained open until the target number of responses ($N = 200$) was obtained. The researcher had originally planned on distributing the surveys to random emails (as a random sample), however, was unable to get access to them and randomization was not possible. Therefore the assistance of advisors and instructors was needed, which turned the study into a purposive convenience, non-random sample.

Before beginning data collection, the researcher obtained IRB approval from all participating universities (see Appendix C, D, and E). No minors participated in the study as an implied agreement was presented before the participant could take the survey, which states that the participant must be at least 18 years of age to participate in the study. As stated in the email sent, minors were not allowed to proceed to the survey.

Confidentiality of the participants remained a priority throughout the process. The participants were encouraged to open the survey in private to eliminate any influence from other individuals, including coaches, professors, or peers. Participant confidentiality was implemented to keep the results biased free, as it allowed them to answer freely (or not answer) without consequence. The researcher did not report the results of the surveys to instructors, coaches, or any other University personnel. University personnel had no way of knowing who completed the survey, as the participants were not identified. Confidentiality is defined as not discussing information with others that were provided by an individual, and then presenting the findings in certain ways that allow that individual to not be identified (Wiles, Crow, Heath, & Charles, 2008).

Instrumentation

This study used two instruments for gathering data: (1) a primary well-established questionnaire for assessing adaptation to college, and (2) a researcher-developed questionnaire for collecting participant demographic information. As explained in this section, both instruments were combined and sent to participants electronically.

Primary Research Instrument

The instrument selected as the primary vehicle for this study was the Student Adaptation to College Questionnaire (SACQ). This instrument was designed by Robert W. Baker and Bohhan Siryk in 1987 and was published by Western Psychological Services (WPS) in 1989 (see Appendix A). The SACQ is a commonly utilized instrument for evaluating the adjustment of college students and has shown to measure variables better than other instruments used to measure similar variables. In addition, the particular instrument is included in many studies regarding student retention and psychological well-being.

The SACQ is closely aligned with Tinto's Theory of Student Retention as discussed in chapter I. Beyers and Goossens (2002) validated the instrument when measuring the adjustment of students and found correlations between different aspects of adjustment to university and measures of academic motivation, loneliness, depressive symptoms, and general adjustment. In the Beyers and Goossens study, the SACQ score correlated with all measures of adjustment, sharing 18% to 74% of variance with these measures, as academic motivation, low levels of depression and loneliness, and high

levels of adjustment were associated with higher levels of adjustment (Beyers & Goossens, 2002).

The SACQ is a 67-item questionnaire and is a widely used instrument in the research literature on college adjustment. In addition to the four subscales (Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Institutional Attachment), the SACQ provides an overall adjustment score (Kurtz, Puher, & Cross, 2012).

Four subsections of this questionnaire were utilized to examine college adjustment, and determine factors within the experience the student-athlete used to form their academic and career goals. The SACQ is considered a multi-dimensional instrument which allows students to respond utilizing a 9-point Likert-type scale anchored by the roots (1) “applies very closely to me” to (9) “doesn’t apply to me at all.” This amount of detail helps identify the adjustment levels for participants at each area of adjustment.

The SACQ is usually only available in hard copy format. However, the Western Psychological Service (WPS) gave written permission (see Appendix F) for a researcher to convert the instrument to an electronic version through a password-protected site (such as Survey Monkey or Qualtrics). The researcher utilized Qualtrics to administer this study. As Baker and Siryk (1999) explain, this 67-item, self-report questionnaire can be administered to individuals or groups in just 15 to 20 minutes. Norms are based on a sample of more than 1,300 male and female college freshmen and stratified by semester of attendance (first and second semesters in college). For the current study, the researcher sampled students in all undergraduate academic levels (freshmen, sophomores,

juniors, seniors, and graduate students). WPS states that the SACQ is appropriate for use with students at any time during their undergraduate career. As scores are analyzed, higher scores result in stronger levels of adjustment. These surveys were collected by the researcher using Qualtrics and were analyzed using SPSS.

Demographic Instrument

A brief researcher-developed questionnaire was distributed as part of the survey to gather measures regarding participants' gender, age, race/ethnicity, academic classification, parents' education, sport, scholarship status (scholarship or non-scholarship athlete), and competitive college sports participation (see Appendix B). There is a question about transfer status in the survey as well. Demographic information supports the study in gathering the background of each participant to be included in the data analysis. Consistent with Melendez (2006), these variables have been predictors of academic adjustment in literature.

Research Design

A non-experimental, quantitative research design is used in this study to measure the relationship between different variables (race/ethnicity, gender, and sport participation) and examine the responses of study participants. The design is *ex post facto*, meaning it assessed the current state of relationships among a set of variables rather than manipulating any variables to observe the effects of such manipulation. Quantitative research offers multiple options for researchers who are measuring more than one variable. Kumar (2012) explains that quantitative study designs have typically been tested for reliability and validity, and is well structured and specific.

In this quantitative research design, survey methodology was used to collect data. Surveys can often have a rapid turnaround and also have the advantage of identifying attributes of a large group from a small sample (Creswell, 2009). It also allows the researcher to collect the data at a distance, through email or other online sources. However, a disadvantage could be the lack of descriptive information found in other forms of research design, such as qualitative or mixed methods.

Procedures

Data Collection and Administering of Surveys

Surveys (SACQ and demographic survey) were emailed to students and student-athletes with the help of academic and athletic advisors. Each set of surveys (SACQ and demographic questionnaire) took 15-20 minutes to complete, as stated in the WPS manual and past studies using the SACQ and demographic questionnaires together. The demographic questionnaire addressed age, gender, race, academic classification, major, GPA, state or country or origin, distance from home, family household income, parents' education, which sport they play (if an athlete), and if they are a student-athlete or have been an athlete.

Email addresses were sent out with the help of institutions through the athletic and academic departments by having them forward the recruitment email. After the surveys were deployed, reminder emails were sent two weeks after the first survey launch to all participants reminding them to complete the survey if they have not already done so. The survey remained open for one month and closed when the 200 target surveys were received (closed at exactly 215 surveys).

An implied consent form appeared in the email before the participant was able to take the survey. The form was the standard “participant information form” provided by OSU IRB. Once the individual agreed to the consent form, they were able to take the survey.

The emails, which contained the link to the Qualtrics survey, were sent to participants through academic and athletic advisors. Qualtrics software allowed the researcher to track the number of responses. After the target number of 200 responses was collected, data was then entered into SPSS. In addition to the 200, an additional 15 responses were collected to account for possible missing data.

Each person who participated in the study had the option of being entered into a drawing for a chance to win one of four \$20 Amazon gift cards as an incentive. The participants were instructed to provide their contact phone number if they wished to be entered in the drawing. Winners were then notified by the number they provided, and then all numbers were deleted. No names or personal information were discussed with any participant nor did any aspect of the study at any point that could identify them. No university personnel had any information on who had participated in the study.

The publisher, WPS, has given permission for the surveys to be converted to electronic form prior to data collection to allow the researcher to perform data collection at a distance. These surveys were uploaded into Qualtrics and then distributed to participants through email. The researcher sent a link to the surveys to participants at both universities with the help of athletic and academic advisors. Surveys were sent until the minimum target of 200 responses were recorded, at which the surveys no longer were

available. The researcher collected an additional 15 surveys (N=215) in addition, to account for possible missing data.

Data Analysis

A $2 \times 2 \times 2$ (athletes versus non-athletes \times majority versus minority students \times male versus female students) MANOVA of scores on the set of four SACQ subscales for all participants of the study examined the relationships among the variables in question. The MANOVA is commonly used when scoring two or more variables, which we have in this study. Due to the limited sample size, the variable of race/ethnicity was coded into “minority” (non-White) and “majority” (White) groups. Standard *t*-tests and chi-square analyses measured the differences among participants, such as academic and background variables.

Data analysis was conducted in a similar way for this study, thus *t*-tests and chi-square analyses measured the differences among participants, and a MANOVA was conducted on the full-scale SACQ for each of the four subscales, while an ANOVA was conducted for each individual subscale and compared to the variable groups. SPSS was utilized in the data analysis to get more detailed statistical data and to help interpret the different groups. All data was entered directly into a standard SPSS data file and analyzed using standard statistical tests found in the SPSS software.

Missing Data. MAR “Missing at Random” pattern indicated missing data in some of the subscales, due to the items that were omitted. However, no responses were eliminated for subjects who had missing responses. The researcher kept all data from all participants and entered all data into SPSS, including a code for “no response” where

appropriate. SPSS then used only valid response codes for each variable (discarding "no response" codes) in the calculations for each variable, which resulted in different Ns for different variables due to missing data. The missing data appeared to be MAR and indicated that this approach to handling missing data was appropriate (Gemici, Rojewski, & In, 2012). As explained in the SACQ manual, it is a common occurrence for students to omit items in the survey that do not apply to them. MAR is when values are not randomly distributed across the spectrum but are distributed among one or more subsamples or in this instance SACQ subscales (Gemici, Rojewski, & In, 2012).

Timeline for Conducting the Study and Costs

The study lasted approximately three months, starting in January of 2018. Administration of the surveys lasted approximately one month while analyzing results and the conclusions portion took a majority of the time to complete, lasting approximately three months. IRB approval has taken place before data collection. Surveys cost the researcher \$1.89 per usage, and four Amazon gift cards were purchased to give to the winners of the drawing. Before data collection began, written permission was obtained by WPS to use the SACQ.

Summary

This study used an *ex post facto* or non-experimental quantitative research design and survey methods to study the college adjustment of student-athletes and non-athletes at two Division II universities in Oklahoma. The sample ($N = 200$) was a blending of convenience and purposive elements. The SACQ was the research instrument, appropriately aligning with Tinto's theory of Student Retention. SACQ is a 67 item

questionnaire which has four sub-sections: Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Institutional Attachment. The SACQ measured the levels of college adjustment among the populations. A secondary instrument for collecting participant demographics was a brief researcher-designed questionnaire. Surveys were administered electronically via Qualtrics after recruitment by email. The assistance of athletic and academic departments among each of the universities was needed to obtain the email addresses. IRB applications were approved for OSU, ECU, and RSU. Participant information and responses remain confidential as names of the individuals were not exposed. All obtained data was entered directly into an SPSS data file and analyzed with standard statistical tests in the SPSS software, including *t*-tests, chi-square, and MANOVA.

CHAPTER IV

FINDINGS

Introduction

The means of college adjustment between student-athletes and non-athletes were compared, as were the differences among gender and race/ethnicity in relation to college adjustment and the college experience. The Student Adaptation to College (SACQ) questionnaire was used to compare adjustment for the variables. Higher SACQ scores represent a higher level of adjustment (or means the student is well adjusted). The analysis of data included a multivariate MANOVA on the multiple dependent variables listed in chapter three, a $2 \times 2 \times 2$ (athletes versus non-athletes \times majority versus minority students \times male versus female students) MANOVA of scores on the set of four SACQ subscales were measured. SPSS was used to analyze the data. ANOVA is used when more than one variable is being tested and each group is compared (Salkind, 2007). MANOVA is used when two or more dependent variables are being tested separately. In this study athletes versus non-athletes \times majority versus minority students \times male versus female students are being tested and analyzed.

ANOVAs were done after the MANOVA as a follow-up to compare means within each SACQ subscale. MANOVAs do not count responses that are partially answered; in the SACQ, questions 26 and 33 ask about dormitories and roommates, which do not apply to all participants. The variable of race/ethnicity was coded as “minority” (non-

White) and “majority” (White) groups, due to the limited sample size. Analysis of *t*-tests and Chi-Square measured the academic and background differences among the participants.

Univariate ANOVAs were run for each subscale of the SACQ and analyzed the comparison of the four forms of commitment to gender and race/ethnicity. The MANOVA was used to measure the SACQ full scale, which analyzed all four subscales and also compared gender and race/ethnicity. The target number for the study were 200 participants; 100 student-athletes and 100 non-athletes. Surveys were sent to approximately 300 students between East Central University and Rogers State University. Demographic info showed that 215 students took the survey, while 131 were calculated for the full-scale SACQ. However, the means were compared by running an ANOVA for each subscale, which allowed for each subscale to have a different number of responses. A total of 100 males (46.51%) and 115 females (53.49%) took the survey. However, the MANOVA and ANOVA tests that were run will not indicate these exact numbers within the SACQ, as these types of tests do not record partially completed surveys. Therefore, the number was reduced to meet the criteria of accurate scoring.

Demographic Information

Participants for this study were recruited from East Central University and Rogers State University, with the help of University personnel in academic and athletic departments. The current study was a purposive, convenience sample. A total of 215 individuals participated in the survey. Of the demographic questionnaire, the Chi-Square and *t*-test did not show any significance in the tested variables ($p > .05$), indicating that parent’s background and athlete status were independent of each other.

When determining academic classification, there was a fairly equal distribution of freshmen, sophomores, juniors, and seniors, with a slightly higher number of juniors. Of the 215 responses, 47 freshmen (21.86%), 38 sophomores (17.67%), 67 juniors (31.16%), 59 seniors (27.44%), and 4 graduate students (1.66%) participated. Of the participants, 23 (10.65%) students indicated it was their first time at a university, while 77 (35.65%) identified as a transfer student. Of the student-athletes, there were 15 (7.25%) redshirts (athletes waiving the first year of eligibility) and 90 (43.48%) scholarship athletes who participated.

Participants were asked about their family's approximate annual income. Results showed that 41 (18.98%) earned 0-\$30,000 per year, 69 (31.94%) earned \$30,000 - \$60,000 per year, 61 (28.24%) earned \$60,000 – \$90,000 per year, and 45 (20.83%) earned \$90,000 or more per year. Income in the groups did not considerably fluctuate, although more students identified their family as the middle class earning \$30,000 to \$90,000 per year (almost 60% of the participants).

When asked about their family's educational background, 73 (33.80%) participants indicated their father graduated from college, 104 (48.15%) participants indicated their mother graduated from college, and 75 (38.13%) had a sibling that graduated from college. A total of 74(34.26) responses indicated the father did not attend college at all, while 53 (24.54%) indicated their mother did not attend college. Please refer to Table 5 for results of family background.

Table 5**Family's Education Background**

Field	Did Not Attend College	Attended Some College	Graduated from College	Not Sure or Not Applicable	Total
Father	74 (34.26%)	65 (30.09%)	73 (33.80%)	3 (1.85%)	215
Mother	53 (24.54%)	57 (26.39%)	104 (48.15%)	1 (0.09%)	215
Sister	32 (16.41%)	34 (17.44%)	43 (22.05%)	86 (44.10%)	195
Brother	38 (19.10%)	44 (22.11%)	32 (16.08%)	85 (42.71%)	199

Current college academic grade point average (GPA) was also asked of the participants to assist in determining the academic success of the sample. Most participants answered that they had a GPA of 3.0 to 3.49 ($n = 84$, 38.89%) and a total of 6 (3.24%) indicated they have a GPA below 1.99. Of the responses, 79 (36.57%) had a GPA of 3.5 to 4.0 and 34 (15.74%) had a GPA of 2.5 to 2.99. Refer to Table 6 for a breakdown of GPAs.

Table 6**Current GPA Breakdown**

Range	Frequency (% of total)
3.5-4.0	79 (36.57%)
3.0-3.49	84 (38.89%)
2.5-2.99	34 (15.74%)
2.0-2.49	12 (5.56%)
1.99 or below	6 (3.24%)

Of the participants, 101 student-athletes (46.98%) and 103 non-athletes (47.91%) completed the survey, while an additional 11 (5.12%) indicated they were previous athletes. The 11 previous athletes were coded as non-athletes in the statistical analysis. When asked why they were not playing anymore, previous student-athletes stated that financial, academic, medical, and exhausted eligibility (most prevalent with 4 responses) were among reasons for no longer playing sports.

Academic Adjustment

The academic adjustment subscale is intended to measure a student's success in coping with the various educational demands characteristic of the college experience. As per the SACQ manual (1999), lower scores are associated with less likelihood of academic success, while high scores are associated with high academic achievement.

For the academic subscale, there were 199 usable survey responses, due to their completeness. Shown in Table 7 below is the demographic breakdown; 98 student-athletes and 101 non-athletes, 129 majorities and 70 minority, and 93 males and 106 females were measured in the statistical analysis.

Table 7

Breakdown of Students' Demographics in the Academic Adjustment Subscale

	Category	N
Athlete	YES	98
	NO	101
Minority-Majority	Majority	129
	Minority	70
Gender	Male	93
	Female	106

In Table 8 descriptive statistics of the academic adjustment subscale are shown, including samples sizes, means, and standard deviations. The mean scores of all participants range from 98.21 to 109.46. Female non-athletes who fell in the majority category scored low in academic adjustment with a mean score of 98.21, as did male minority non-athletes. Minority student-athletes scored high on this subscale with a mean of 109.4688. Overall, the mean scores were very close, almost identical averaging 103.55.

Table 8

Mean of Academic Adjustment Scores and Standard Deviation Scores Used to Test Gender and Ethnicity by Athletic Participation

Dependent Variable: Academic Adjustment					
Athlete	Minority-Majority	Gender	Mean	Std. Deviation	N
YES	Majority	Male	103.3548	11.46167	31
		Female	106.5429	10.57562	35
		Total	105.0455	11.03203	66
	Minority	Male	110.5000	15.18073	12
		Female	108.8500	9.95926	20
		Total	109.4688	11.96766	32
	Total	Male	105.3488	12.83389	43
		Female	107.3818	10.32346	55
		Total	106.4898	11.47498	98
NO	Majority	Male	103.5333	14.25563	30
		Female	98.2121	12.88594	33
		Total	100.7460	13.70892	63
	Minority	Male	98.5000	11.74958	20
		Female	103.0000	10.36396	18
		Total	100.6316	11.19947	38
	Total	Male	101.5200	13.41677	50
		Female	99.9020	12.17087	51
		Total	100.7030	12.76444	101
Total	Majority	Male	103.4426	12.80303	61
		Female	102.5000	12.39583	68
		Total	102.9457	12.54947	129
	Minority	Male	103.0000	14.18541	32
		Female	106.0789	10.44259	38
		Total	104.6714	12.29908	70
	Total	Male	103.2903	13.21937	93
		Female	103.7830	11.80880	106
		Total	103.5528	12.45825	199

Univariate Analysis of Variance tests (ANOVAs) were used to compare scores on academic adjustment across groups based on athletic participation, minority/majority ethnicity, and gender. Table 9 below presents the ANOVA table for the academic adjustment subscale and interaction in the 2 x 2 x 2 design. Data in the table provides a sum of squares, degrees of freedom, mean square, F-values, and significance for the ANOVA used to test the interactions and main effects. The results show a main effect for athlete vs. non-athlete ($p = .000$) and a significant interaction of athlete vs. non-athlete, minority vs. majority, and gender ($p = .045$). Any p-value (Sig.) less than 5% (.05) indicates a significant difference.

Table 9

ANOVA Table for the Academic Adjustment Subscale Scores

Dependent Variable: Academic Adjustment					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2911.882 ^a	7	415.983	2.856	.007
Intercept	1907350.472	1	1907350.472	13095.360	.000
ATHLETE	1860.762	1	1860.762	12.775	.000
Minority-Majority	233.287	1	233.287	1.602	.207
GENDER	1.414	1	1.414	.010	.922
ATHLETE * Minority-Majority	258.828	1	258.828	1.777	.184
ATHLETE * GENDER	15.318	1	15.318	.105	.746
Minority-Majority * GENDER	68.342	1	68.342	.469	.494
ATHLETE * Minority-Majority * GENDER	591.414	1	591.414	4.060	.045
Error	27819.314	191	145.651		
Total	2164643.000	199			
Corrected Total	30731.196	198			

Social Adjustment

The social adjustment subscale measures a student's success in coping with the interpersonal-societal demands inherent in the college experience (SACQ manual, 1999). Lower scores are associated with low social adjustment, while higher scores represent high social adjustment. Table 10 provides a breakdown of participants on the social subscale. The SACQ has two items (26 and 33) regarding roommates and dormitories, which states that participants may omit their answer if they do not have a roommate. This resulted in a lower number of responses for the social adjustment subscale. This is explained in chapter 3 in the "missing data" section. Results show 85 student-athletes and 53 non-athletes completed the social subscale of the SACQ; 95 participants were majority while 43 identified as a minority, and 65 males and 73 females completed the social subscale portion. Due to their completeness within this subscale, 138 responses were analyzed.

Table 10

Breakdown of Students' Demographics in the Social Adjustment Subscale

Category		N
Athlete	YES	85
	NO	53
Minority-Majority	Majority	95
	Minority	43
Gender	Male	65
	Female	73

Table 11 provides descriptive statistics of the social adjustment subscale, including samples sizes, means, and standard deviations. The mean of the social subscale ranged from 85.15 to 114.29. Each group in this category scored differently, though female, minority, non-athletes scored high mean of 114.29 on the social subscale. Majority student-athletes as a total scored the lowest in social adjustment with a mean of 85.89.

Table 11

Mean of Social Adjustment Scores and Standard Deviation Scores Used to Test Gender and Ethnicity by Athletic Participation

Dependent Variable: Social Adjustment					
Athlete	Minority-Majority	What is your gender?	Mean	Std. Deviation	N
YES	Majority	Male	87.0000	10.29937	27
		Female	85.1515	12.87954	33
		Total	85.9833	11.72928	60
	Minority	Male	87.4000	16.04300	10
		Female	92.9333	12.66303	15
		Total	90.7200	14.06094	25
	Total	Male	87.1081	11.87384	37
		Female	87.5833	13.19064	48
		Total	87.3765	12.56315	85
NO	Majority	Male	92.2353	19.55610	17
		Female	93.0000	20.06753	18
		Total	92.6286	19.53140	35
	Minority	Male	89.2727	15.46668	11
		Female	114.2857	14.82919	7
		Total	99.0000	19.38465	18
	Total	Male	91.0714	17.81578	28
		Female	98.9600	20.86560	25
		Total	94.7925	19.53336	53
Total	Majority	Male	89.0227	14.59769	44
		Female	87.9216	16.04474	51
		Total	88.4316	15.32044	95
	Minority	Male	88.3810	15.37360	21
		Female	99.7273	16.53332	22
		Total	94.1860	16.79747	43
	Total	Male	88.8154	14.73505	65
		Female	91.4795	16.97802	73
		Total	90.2246	15.95935	138

Univariate Analysis of Variance tests (ANOVAs) were used to compare scores on social adjustment across groups based on athletic participation, minority/majority ethnicity, and gender. Table 12 presents the ANOVA table for the social adjustment subscale and interaction in the 2 x 2 x 2 design. Data in the table provides a sum of squares, degrees of freedom, mean square, F-values, and significance for the ANOVA used to test the interactions and main effects. The results show a significant main effects for athlete vs. non-athlete ($p = .002$), minority-majority ($p = .022$), and gender ($p = .011$), and a significant interaction of minority vs. majority and gender ($p = .007$). In addition, the student-athlete/non-athlete and gender category interacting together scored a marginal p-value score of .056.

Table 12

ANOVA Table for the Social Adjustment Subscale Scores

Dependent Variable: Social Adjustment					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5589.791 ^a	7	798.542	3.543	.002
Intercept	943901.059	1	943901.059	4187.350	.000
ATHLETE	2264.589	1	2264.589	10.046	.002
Minority-Majority	1206.752	1	1206.752	5.353	.022
GENDER	1491.090	1	1491.090	6.615	.011
ATHLETE * Minority-Majority	176.666	1	176.666	.784	.378
ATHLETE * GENDER	838.430	1	838.430	3.719	.056
Minority-Majority * GENDER	1718.560	1	1718.560	7.624	.007
ATHLETE * Minority-Majority * GENDER	488.665	1	488.665	2.168	.143
Error	29304.245	130	225.417		
Total	1158281.000	138			
Corrected Total	34894.036	137			

Personal-Emotional Adjustment

The personal-emotional adjustment subscale focuses on the student's intrapsychic state during his or her adjustment to college, and the degree to which he or she is experiencing general psychological distress and any concomitant somatic problems (SACQ manual, 1999). As shown in Table 13 below, for the personal-emotional subscale, 206 total surveys were analyzed; 99 student-athletes and 107 non-athletes responded. Of the 206, 133 identified in the majority while 73 were categorized as a minority. Male participants stood at 98 while 108 were female.

Table 13

Breakdown of Students' Demographics in the Personal-Emotional Adjustment Subscale

	Category	N
Athlete	YES	99
	NO	107
Minority-Majority	Majority	133
	Minority	73
Gender	Male	98
	Female	108

Table 14 below provides descriptive statistics of the personal-emotional adjustment subscale, including samples sizes, means, and standard deviations. The mean scores ranged from 71.20 and 93.2, serving as the second lowest scored subscale in this study. Male minority student-athletes had a higher score than the rest of the population with 93.25 while female majority non-athletes scored the lowest at 71.20.

Table 14**Mean of Personal-Emotional Adjustment Scores and Standard Deviation Scores used to Test Gender and Ethnicity by Athletic Participation**

Dependent Variable: Personal-Emotional Adjustment					
Athlete	Minority-Majority	Gender	Mean	Std. Deviation	N
YES	Majority	Male	81.3125	14.45669	32
		Female	79.9714	21.27756	35
		Total	80.6119	18.21667	67
	Minority	Male	93.2500	12.07646	12
		Female	83.2000	19.55451	20
		Total	86.9688	17.62235	32
	Total	Male	84.5682	14.72760	44
		Female	81.1455	20.54392	55
		Total	82.6667	18.18387	99
NO	Majority	Male	82.5000	17.66170	32
		Female	71.2059	20.22417	34
		Total	76.6818	19.71736	66
	Minority	Male	81.4545	20.50720	22
		Female	81.7895	16.60180	19
		Total	81.6098	18.56997	41
	Total	Male	82.0741	18.69098	54
		Female	75.0000	19.52513	53
		Total	78.5701	19.34743	107
Total	Majority	Male	81.9063	16.02153	64
		Female	75.6522	21.07956	69
		Total	78.6617	19.00673	133
	Minority	Male	85.6176	18.68075	34
		Female	82.5128	17.95150	39
		Total	83.9589	18.23339	73
	Total	Male	83.1939	16.98796	98
		Female	78.1296	20.19396	108
		Total	80.5388	18.86346	206

Univariate Analysis of Variance tests (ANOVAs) were used to compare scores on personal-emotional adjustment across groups based on athletic participation, minority/majority ethnicity, and gender. Table 15 presents the ANOVA table for the personal-emotional adjustment subscale and interaction in the 2 x 2 x 2 design. Data in

the table provides a sum of squares, degrees of freedom, mean square, F-values, and significance for the ANOVA used to test the interactions and main effects. The results show significance in minority/majority ($p = .025$) and gender ($p = .043$) groups, while student-athletes vs. non-athletes ($p = .060$) and the interaction of student-athletes/non-athletes, minority/majority, and gender together ($p = .065$) show marginal significance.

Table 15

ANOVA table for the Personal-Emotional Adjustment Subscale Scores

Dependent Variable: Personal-Emotional Adjustment					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5243.722 ^a	7	749.103	2.191	.037
Intercept	1217981.496	1	1217981.496	3562.114	.000
ATHLETE	1227.543	1	1227.543	3.590	.060
Minority-Majority	1734.280	1	1734.280	5.072	.025
GENDER	1419.524	1	1419.524	4.152	.043
ATHLETE * Minority-Majority	90.007	1	90.007	.263	.608
ATHLETE * GENDER	.530	1	.530	.002	.969
Minority-Majority * GENDER	24.231	1	24.231	.071	.790
ATHLETE * Minority-Majority * GENDER	1175.419	1	1175.419	3.438	.065
Error	67701.468	198	341.927		
Total	1409165.000	206			
Corrected Total	72945.189	205			

Attachment (to the institution)

The institutional attachment subscale is designed to measure a student's degree of commitment to educational or institutional goals and degree of attachment to the particular institution the student is attending, in addition to the quality of the relationship

or bond that is established between the student and institution (SACQ manual, 1999). As shown in Table 16, a total of 207 participants completed the attachment subscale, with 99 student-athletes and 108 non-athletes. There were 132 majority participants compared to 75 minority, and 97 males and 110 females recorded surveys.

Table 16

Breakdown of Students' Demographics in the Attachment Subscale

	Category	N
Athlete	YES	99
	NO	108
Minority-Majority	Majority	132
	Minority	75
Gender	Male	97
	Female	110

Table 17 presents descriptive statistics of the attachment subscale, including samples sizes, means, and standard deviations. The mean scores in the attachment (to the institution) subscale showed less difference among groups than any other subscale in the SACQ. Male majority student-athletes scored the lowest with 34.62 and female majority student-athletes scored the highest with 39.35.

Table 17**Mean of Attachment Scores and Standard Deviation Scores Used to Test Gender and Ethnicity by Athletic Participation**

Dependent Variable: Attachment					
Athlete	Minority-Majority	Gender	Mean	Std. Deviation	N
YES	Majority	Male	34.6250	4.64723	32
		Female	39.3611	3.76566	36
		Total	37.1324	4.80331	68
	Minority	Male	37.6667	7.93534	12
		Female	36.5263	3.76192	19
		Total	36.9677	5.64791	31
	Total	Male	35.4545	5.79276	44
		Female	38.3818	3.96975	55
		Total	37.0808	5.05415	99
NO	Majority	Male	35.8000	4.60435	30
		Female	36.1471	5.07598	34
		Total	35.9844	4.82550	64
	Minority	Male	36.3478	4.38602	23
		Female	37.1429	6.57484	21
		Total	36.7273	5.48725	44
	Total	Male	36.0377	4.47627	53
		Female	36.5273	5.65638	55
		Total	36.2870	5.09361	108
Total	Majority	Male	35.1935	4.62650	62
		Female	37.8000	4.70461	70
		Total	36.5758	4.83012	132
	Minority	Male	36.8000	5.76399	35
		Female	36.8500	5.36632	40
		Total	36.8267	5.51747	75
	Total	Male	35.7732	5.09596	97
		Female	37.4545	4.95232	110
		Total	36.6667	5.07803	207

Table 18 below presents the ANOVA table for the attachment subscale and interaction in the 2 x 2 x 2 design. Data in the table provides a sum of squares, degrees of freedom, mean square, F-values, and significance for the ANOVA used to test the interactions and main effects. Student-athlete/non-athlete, majority/minority, and gender

showed significance ($p = .032$), while minority/majority and gender interactions resulted in marginal significance ($p = .065$).

Table 18

ANOVA Table for the Attachment Subscale Scores

Dependent Variable: Attachment					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	445.937 ^a	7	63.705	2.605	.014
Intercept	247139.256	1	247139.256	10106.880	.000
ATHLETE	21.543	1	21.543	.881	.349
Minority-Majority	8.784	1	8.784	.359	.550
GENDER	64.349	1	64.349	2.632	.106
ATHLETE * Minority-Majority	5.123	1	5.123	.209	.648
ATHLETE * GENDER	17.259	1	17.259	.706	.402
Minority_Majority * GENDER	84.477	1	84.477	3.455	.065
ATHLETE * Minority_Majority * GENDER	114.663	1	114.663	4.689	.032
Error	4866.063	199	24.453		
Total	283612.000	207			
Corrected Total	5312.000	206			

SACQ: Full Scale

For this study, the SACQ subscales were the focus, as they provide more information about each of the four areas of adjustment. The SACQ manual stated that use of the SACQ full scale is not recommended, and ignores the complex aspects of college which is the basic premise of the SACQ (Baker & Siryk, 1999). However, a

univariate MANOVA was run on the full scale was performed in this study, as full-scale scores can identify differences in subscale patterns.

As presented in table 19, full-scale results for the SACQ recorded 131 responses. For MANOVA tests, many times it only records fully completed surveys. For the SACQ, there were a few areas that asked participants to omit answers that did not apply to them. The table below shows that 81 student-athletes and 50 non-athletes completed the full scale. Majority participants were at 89 responses compared to 42 minority responses, while 63 males and 68 females completed the full scale of the SACQ.

Table 19

Breakdown of Students' Demographics in the SACQ Full-Scale

	Category	N
Athlete	YES	81
	NO	50
Minority-Majority	Majority	89
	Minority	42
Gender	Male	63
	Female	68

The SACQ full-scale results showed the overall adjustment of the participants, with all four scales combined. Table 20 presents these findings. As shown in the analysis, the highest in the overall mean of college adjustment were the female minority non-athletes. The lowest overall scoring group by mean was the female majority non-athletes. These results were surprising, as both groups were non-athlete females, but were different in the majority/minority category. Minority student-athletes as a whole scored considerably high as well, with 325.00

Table 20**Mean of Full-Scale Scores and Standard Deviation Scores Used to Test Gender and Ethnicity by Athletic Participation**

Dependent Variable: SACQ					
Athlete	Minority-Majority	Gender	Mean	Std. Deviation	N
YES	Majority	Male	306.9231	26.95169	26
		Female	314.7097	37.38288	31
		Total	311.1579	32.98852	57
	Minority	Male	328.7000	36.36253	10
		Female	322.3571	34.92103	14
		Total	325.0000	34.88366	24
	Total	Male	312.9722	30.93079	36
		Female	317.0889	36.41355	45
		Total	315.2593	33.94215	81
NO	Majority	Male	316.1875	42.38588	16
		Female	294.4375	43.87857	16
		Total	305.3125	43.85198	32
	Minority	Male	307.4545	36.10641	11
		Female	340.2857	42.09004	7
		Total	320.2222	40.78430	18
	Total	Male	312.6296	39.45898	27
		Female	308.3913	47.55164	23
		Total	310.6800	42.96436	50
Total	Majority	Male	310.4524	33.48039	42
		Female	307.8085	40.41666	47
		Total	309.0562	37.12000	89
	Minority	Male	317.5714	36.94668	21
		Female	328.3333	37.40499	21
		Total	322.9524	37.12205	42
	Total	Male	312.8254	34.54055	63
		Female	314.1471	40.37853	68
		Total	313.5115	37.54635	131

The ANOVA provided in Table 21 presents “between subject effects” for the full-scale SACQ. Univariate Analysis of Variance tests (ANOVAs) were used to compare scores on full-scale adjustment across groups based on athletic participation, minority/majority ethnicity, and gender. In the full-scale, there was a significant difference in the minority/majority category ($p = .022$) and on the overall interaction effects of athlete/non-athlete, minority/majority, and gender group ($p = .018$). There

were no other significant features in the full scale “between-subjects effects.” More detailed data is provided in the MANOVA explanation below.

Table 21

ANOVA Table for the SACQ Full-Scale Scores

Dependent Variable: SACQ					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15932.654 ^a	7	2276.093	1.673	.122
Intercept	10660819.780	1	10660819.780	7836.398	.000
ATHLETE	341.472	1	341.472	.251	.617
Minority-Majority	7367.979	1	7367.979	5.416	.022
GENDER	261.058	1	261.058	.192	.662
ATHLETE * Minority-Majority	98.432	1	98.432	.072	.788
ATHLETE * GENDER	154.564	1	154.564	.114	.737
Minority-Majority * GENDER	2723.085	1	2723.085	2.002	.160
ATHLETE * Minority-Majority * GENDER	7856.610	1	7856.610	5.775	.018
Error	167332.078	123	1360.423		
Total	13059180.000	131			
Corrected Total	183264.733	130			

Multivariate testing for the MANOVA is viewed in Table 23. There was a statistically significant difference in overall college adjustment for student-athlete/non-athletes ($p = .000$), majority/minority ($p = .027$), and gender ($p = .009$). Based on the findings, the comparison for majority/minority and gender together were also statistically significant ($p = .018$).

Table 22

SACQ Full-Scale Multivariate Test (MANOVA)

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.989	2690.998 ^b	4.000	120.000	.000	.989
	Wilks'	.011	2690.998 ^b	4.000	120.000	.000	.989
	Lambda						
	Hotelling's Trace	89.700	2690.998 ^b	4.000	120.000	.000	.989
	Roy's Largest Root	89.700	2690.998 ^b	4.000	120.000	.000	.989
ATHLETE	Pillai's Trace	.164	5.868 ^b	4.000	120.000	.000	.164
	Wilks'	.836	5.868 ^b	4.000	120.000	.000	.164
	Lambda						
	Hotelling's Trace	.196	5.868 ^b	4.000	120.000	.000	.164
	Roy's Largest Root	.196	5.868 ^b	4.000	120.000	.000	.164
Minority- Majority	Pillai's Trace	.086	2.840 ^b	4.000	120.000	.027	.086
	Wilks'	.914	2.840 ^b	4.000	120.000	.027	.086
	Lambda						
	Hotelling's Trace	.095	2.840 ^b	4.000	120.000	.027	.086
	Roy's Largest Root	.095	2.840 ^b	4.000	120.000	.027	.086
GENDER	Pillai's Trace	.106	3.559 ^b	4.000	120.000	.009	.106
	Wilks'	.894	3.559 ^b	4.000	120.000	.009	.106
	Lambda						
	Hotelling's Trace	.119	3.559 ^b	4.000	120.000	.009	.106
	Roy's Largest Root	.119	3.559 ^b	4.000	120.000	.009	.106
ATHLETE * Minority- Majority	Pillai's Trace	.024	.753 ^b	4.000	120.000	.558	.024
	Wilks'	.976	.753 ^b	4.000	120.000	.558	.024
	Lambda						
	Hotelling's Trace	.025	.753 ^b	4.000	120.000	.558	.024
	Roy's Largest Root	.025	.753 ^b	4.000	120.000	.558	.051
ATHLETE *	Pillai's Trace	.051	1.621 ^b	4.000	120.000	.173	.051

GENDER	Wilks' Lambda	.949	1.621 ^b	4.000	120.000	.173	.051
	Hotelling's Trace	.054	1.621 ^b	4.000	120.000	.173	.051
	Roy's Largest Root	.054	1.621 ^b	4.000	120.000	.173	.094
Minority-Majority * GENDER	Pillai's Trace	.094	3.108 ^b	4.000	120.000	.018	.094
	Wilks' Lambda	.906	3.108 ^b	4.000	120.000	.018	.094
	Hotelling's Trace	.104	3.108 ^b	4.000	120.000	.018	.094
	Roy's Largest Root	.104	3.108 ^b	4.000	120.000	.018	.050
ATHLETE * Minority-Majority * GENDER	Pillai's Trace	.050	1.565 ^b	4.000	120.000	.188	.050
	Wilks' Lambda	.950	1.565 ^b	4.000	120.000	.188	.050
	Hotelling's Trace	.052	1.565 ^b	4.000	120.000	.188	.050
	Roy's Largest Root	.052	1.565 ^b	4.000	120.000	.188	

Table 23 was the last statistical test run in this study, which measured the significance of multiple comparisons within the SACQ and groups examined in this study. For student-athletes and non-athletes, the test determined there was statistical significance within the academic subscale ($p = .012$) and social subscale ($p = .004$), while personal emotional subscale ($p = .088$) was marginal. For the majority/minority group, there was significance for social adjustment ($p = .009$), while personal-emotional adjustment ($p = .061$) was marginal. Social adjustment for the gender group was significant ($p = .006$). Lastly, athlete participation, Minority/Majority, and gender together were statistically significant ($p = .030$).

Table 23

MANOVA Between-Subjects Effects for Full-Scale SACQ

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Academic Adjustment	1823.576 ^a	7	260.511	1.743	.105	.090
	Social Adjustment	5440.902 ^b	7	777.272	3.558	.002	.168
	Personal-Emotional Adjustment	5018.467 ^c	7	716.924	2.003	.060	.102
	Attachment	410.594 ^d	7	58.656	2.350	.027	.118
Intercept	Academic Adjustment	1154520.429	1	1154520.429	7725.091	.000	.984
	Social Adjustment	905111.038	1	905111.038	4143.117	.000	.971
	Personal Emotional Adjustment	693380.897	1	693380.897	1937.279	.000	.940
	Attachment	138254.705	1	138254.705	5539.963	.000	.978
ATHLETE	Academic Adjustment	979.955	1	979.955	6.557	.012	.051
	Social Adjustment	1895.550	1	1895.550	8.677	.004	.066
	Personal Emotional Adjustment	1057.761	1	1057.761	2.955	.088	.023
	Attachment	25.738	1	25.738	1.031	.312	.008
Minority-Majority	Academic Adjustment	190.570	1	190.570	1.275	.261	.010
	Social Adjustment	1554.954	1	1554.954	7.118	.009	.055
	Personal Emotional Adjustment	1284.374	1	1284.374	3.588	.061	.028
	Attachment	2.442	1	2.442	.098	.755	.001
GENDER	Academic Adjustment	8.616	1	8.616	.058	.811	.000
	Social Adjustment	1423.045	1	1423.045	6.514	.012	.050
	Personal-Emotional Adjustment	1025.023	1	1025.023	2.864	.093	.023
	Attachment	51.448	1	51.448	2.062	.154	.016
ATHLETE * Minority-Majority	Academic Adjustment	76.735	1	76.735	.513	.475	.004
	Social Adjustment	256.869	1	256.869	1.176	.280	.009
	Personal-Emotional Adjustment	14.989	1	14.989	.042	.838	.000
	Attachment	1.709	1	1.709	.068	.794	.001
ATHLETE * GENDER	Academic Adjustment	31.703	1	31.703	.212	.646	.002
	Social Adjustment	626.855	1	626.855	2.869	.093	.023

	Personal-Emotional Adjustment	2.454	1	2.454	.007	.934	.000
	Attachment	34.854	1	34.854	1.397	.240	.011
Minority-Majority * GENDER	Academic Adjustment	133.395	1	133.395	.893	.347	.007
	Social Adjustment	1717.543	1	1717.543	7.862	.006	.060
	Personal-Emotional Adjustment	17.657	1	17.657	.049	.825	.000
	Attachment	44.223	1	44.223	1.772	.186	.014
ATHLETE * Minority-Majority * GENDER	Academic Adjustment	312.686	1	312.686	2.092	.151	.017
	Social Adjustment	618.249	1	618.249	2.830	.095	.022
	Personal-Emotional Adjustment	1718.883	1	1718.883	4.802	.030	.038
	Attachment	35.810	1	35.810	1.435	.233	.012
Error	Academic Adjustment	18382.440	123	149.451			
	Social Adjustment	26870.747	123	218.461			
	Personal-Emotional Adjustment	44023.533	123	357.915			
	Attachment	3069.574	123	24.956			
Total	Academic Adjustment	1442932.000	131				
	Social Adjustment	1087121.000	131				
	Personal-Emotional Adjustment	887442.000	131				
	Attachment	176221.000	131				
Corrected Total	Academic Adjustment	20206.015	130				
	Social Adjustment	32311.649	130				
	Personal-Emotional Adjustment	49042.000	130				
	Attachment	3480.168	130				

Chapter Summary

The researcher has established a target of 200 completed surveys. However, when the statistical tests were run, some responses were eliminated due to unanswered questions. The missing data is addressed as a MAR or a “missing at random” mechanism. The SACQ is not electronic by nature and was converted from the “hard copy” form (with publisher’s written permission). This created a “no response” code within SPSS when analyzing the data. Therefore, with MAR responses no pattern exists that might be helpful in explaining underlying causes of the low response rate. There is diminished evidence of this in past studies, as the instrument is primarily not used electronically and uses the scoring report provided in the WPS manual (not available electronically). The SACQ manual (1999) explains that this is common with this instrument as some questions give the option of omitting the item.

However, the Findings from the MANOVA and ANOVA tests presented specific information from each group as they adjusted in each area of the SACQ. The ANOVA for each subscale determined the level of adjustment for each area, while the MANOVA resulted in the full-scale SACQ and the instrument as a whole, as it relates to each variable group in the study. The researcher did find that more information could be gained from examining each subscale individually as compared to the full-scale SACQ. Thus, allowing for a better, more descriptive analysis. In Chapter V, these results are explained in more detail, and their implications for university leaders and other post-secondary professionals who work with students and future recommendations are identified.

CHAPTER V

CONCLUSION

Introduction and Overview of the Study

This chapter summarizes the comparative study of college adjustment of student-athletes and non-athletes at two regional universities in Oklahoma. The following research questions were addressed in the study:

1. Do differences in the area of college adjustment exist between students and student-athletes in the following areas:

- a. Academic Adjustment?
- b. Social Adjustment?
- c. Personal-Emotional Adjustment?
- d. Goal Commitment/Institutional Attachment?

2. Do differences in the area of college adjustment exist between students and student-athletes in the overall college experience?

The Student Adaptation to College Questionnaire (SACQ) was used to explore student-athlete adjustment while measuring differences in gender and race/ethnicity. This instrument is based on Tinto's theory of student retention, has a well-established psychometry, and is frequently used in the literature on student retention. The participants in the study ($N = 200$) were equal numbers of student-athletes and student non-athletes

drawn from two regional universities in Oklahoma. This sample was non-random and was a blend of a purposive element (participation required meeting of specified criteria) and a convenience element (participation was limited to institutions to which the researcher had access). The study used a non-experimental *ex post facto* research design and survey methodology using the Qualtrics online platform. All data was entered into an SPSS data file for statistical analysis using standard SPSS *t*-tests, chi-square, and MANOVA. Missing data was handled as “missing at random,” resulting in the use of all obtained responses and no elimination of participants due to missing responses.

The results of the study provided an understanding of the differences within the SACQ subscales of college adjustment among the group variables: athletic participation, gender, and race/ethnicity. For statistical analysis, race/ethnicity was grouped in two categories: majority (white) and minority (non-white).

The findings of the study support two principal conclusions:

1. Differences exist in the area of college adjustment between students and student-athletes in the areas of Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Attachment (to the institution).
2. Differences in the area of college adjustment exist between students and student-athletes in the overall college experience.

In this chapter, results are summarized and discussed, and implications for researchers and professionals are presented.

Limitations

This study had a few limitations. The first limitation was the difficulty in obtaining surveys responses. The surveys were sent out through campus email at the two

universities with assistance from the athletic and academic departments. However, follow up emails had to be sent before obtaining the target number of surveys.

The second limitation was the use of the departments to help distribute the surveys. This could have created a small amount of bias, as the student-participants were encouraged several times by faculty and coaches to complete this survey. This could have made the participants feel obligated to take the surveys.

The third and final limitation is the survey design. Results varied in some subscales due to the wording of the questions and the specific situation the student might have been in at the moment. For example, the questions encouraged participants to answer how they are feeling at that particular moment, which could be different depending on the current mood of the individual. In addition, the survey required students to omit their responses for several questions if the student felt it did not apply to them.

The study did not include off-campus activities or jobs, as a contributing factor. This could tell more about exactly what is stressing the student out, and how it could be affecting their academic, social, or emotional adjustment. Another factor could be the timeframe in which the data was collected. Students were asked to take this survey at the beginning of the spring semester (after winter break), which could have contributed to their current feelings of adjustment. Perhaps asking participants to take the surveys at a different point of the semester may have altered the responses.

Summary of Findings

Data Analysis Overview

A MANOVA was used to analyze the full-scale SACQ ($2 \times 2 \times 2$: athletes versus non-athletes \times majority versus minority students \times male versus female students) scores on the set of four SACQ subscales for all participants to measure the relationships. Due to the limited sample size, the variable of race/ethnicity coded as “minority” (non-White) and “majority” (White) groups. For each subscale, a univariate ANOVA was used to compare the particular subscale to the groups (athletes versus non-athletes \times majority versus minority \times male versus female students). In addition, *t*-tests and Chi-Square analysis measured the demographic differences among participants. The SACQ has questions that allow the participants to omit answers (items 26 and 33). This created an issue with random missing data, which resulted in differing response rates among each subscale (explained in chapter III). The recorded responses were as follows: demographic 215, academic subscale 199, social subscale 138, Personal-emotional subscale 206, attachment subscale 207, and the full-scale 131.

Research Question #1

The first research question addressed differences in the area of college adjustment between students and student-athletes in the following areas: Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Attachment (to the institution). ANOVAs for the subscales showed high academic adjustment in minority student-athletes compared to low academic adjustment in non-athletes as a whole. Social adjustment among female non-athletes was very high, while the majority student-athletes

as a whole scored very low. The personal-emotional adjustment was high for male minority students, while female non-athletes in the majority scored low. Personal-emotional adjustment scored high for student-athlete males in the minority, as compared to the low score of majority non-athlete females. Attachment scores were similar across the board with the only difference coming from all groups combined.

Overall, as collected from the full-scale, student-athletes scored higher in adjustment than non-athletes, specifically, minority student-athletes scored very high. Lowest overall scores came from majority non-athlete females and majority male athletes. The groups had similar mean scores, with student-athletes scoring slightly higher.

Research Question #2

The second research question addressed differences in the area of college adjustment between students and student-athletes in the overall college experience. Students are influenced in different ways by the college experience. In this study, there were no consistently high scores across the board in overall adjustment for any particular group. However, each variable group seemed to maintain adjustment in one of the four subscale areas of the SACQ. Student-athletes scored higher in academic adjustment and non-athletes scored higher in social adjustment. Therefore, college adjustment appears to be highly influenced by the different factors presented in the study. Overall, Student-athletes scored higher in academic achievement, while non-athlete scored higher in social adjustment.

Discussion of Findings

The low social adjustment of student-athletes was not expected. In addition, the high adjustment scores of non-athletes who were female showed that that group was well adjusted in social adjustment. It was surprising to the researcher that personal interaction that student-athletes face when entering college did not increase their social adjustment. While adjusting can be hard, student-athletes have opportunities to make new friends that they may not have made if they were on a team or paired with those individuals in competition. Being on an athletic team could form more cohesion among student-athletes than their non-athlete peers. Due to evidence in research that college males struggle, there appears to be a lack of engagement of college men in student affairs and academic affairs program and services (Ayers, 2007). The high adjustment scores could be a result of the high number of females who join the Greek system. It would be interesting to understand which (if any) of the individuals in either group were involved in a campus organization, which would add another layer of social interaction.

Academic adjustment scores were also surprising to the researcher, as female non-athletes scored low in this area. It is interesting that non-athlete females scored so high in social adjustment but low in academic adjustment. Academically, the higher levels of adjustment for athletes could be contributed by mandatory study hall sessions that are required of student-athletes. In addition, specific academic advising requirements (GPA, Specific Hour Requirement, etc.) are placed on student-athletes, which do not allow them to deviate from their academic plan of study (NCAA.org). While non-athletes have these same services available on campus, they are not always required to go as compared to

student-athlete peers. Perhaps stronger academic support is something to implement for all groups.

Similar to the current study, Melendez (2006) discovered that social, academic, and athletic factors played an important role in the student-athlete experience, as student-athletes scored higher on academic adjustment and institutional attachment than non-athletes. However, Melendez (2006) did not measure upperclassmen (juniors and seniors), unlike the current study which had approximately 60% upperclassmen participants. This could be a predictor that the experience does not considerably differ between underclassmen and upperclassmen. Melendez (2006) theorized that student-athlete support programs were a contributing factor to their high level of adjustment.

Personal-emotional adjustment scores also showed surprising results, as male student-athletes scored higher than the rest of the groups. This group could be more personally and emotionally adjusted due to the personal connections formed within their team. The team cohesion factor could be stronger in the male athletes who have played together for a long period of time. Leadership could be a factor in this area of adjustment as personal (student-to-student) interaction is associated with leadership (Astin, 1993). The overall low adjustment of female non-athletes could be explained by conducting a deeper investigation of the counseling services on campuses and how often they are utilized.

As a predictor of student-adjustment, Baker and Siryk (1983, 1999) used their Student Adaptation to College Questionnaire (SACQ) to explore students' attachment levels to an institution, which were strongly correlated with persistence. Melendez (2006) conducted a study to help identify implications for retention policy and future

research among athletes and non-athletes while examining the differences between the two groups. Melendez (2006) utilized the SACQ to collect data in his study and discovered that student-athletes reported higher academic adjustment scores than non-athletes.

Results for the present study could give college professionals an idea of where gaps exist, such as improved social activities for student-athletes and more academic support for non-athletes. These results most likely could be an effect of the support systems already set up and the requirements for these groups. For example, student-athletes are required to maintain a higher GPA, while non-athletes are more likely to be involved in campus organizations, such as fraternities and sororities.

The higher personal-emotional adjustment for athletes, specifically minority males, as compared to female non-athletes could tell university counseling services how to better service these populations. Perhaps more access to these services could be the key, such as information around campus on the availability of campus counseling and health services. Better social and academic relationships could improve personal-emotional adjustment as well as attachment to the institution. Campus administrators can use this information to help students of all classifications to transition in this stressful time in life and make the experience more enjoyable. The findings are discussed in detail in the next section of this chapter.

Implications and Recommendation

Implications for Theory

The results provided support for the Theoretical framework presented by Tinto. From the stated research questions, Tinto's Theory of Student Retention makes a

prominent presence in college adjustment and in the college experience. The theory aligns with each of the four subscales included in the SACQ (social, academic, personal/emotional, and institutional attachment), concurrent with the goals and commitments, institutional experiences, and integration present in Tinto's model. Tinto's theory suggests that students persist through college based on the positive and negative experiences they have throughout college, eventually leading to the outcome of graduation or dropout (Tinto, 1993). With the SACQ, the integration into college life and experience throughout the student's tenure at the institution is similar to Tinto's theory as the four different types of adjustment create the satisfaction of college life. The six parts to Tinto's theory (see figure 1) are represented in the SACQ and throughout the study, as upperclassmen (juniors and seniors) also took part in this study, allowing examination of college adjustment at all academic levels.

The wide use of Tinto's theory has served as a foundation for many college development and retention studies, as indicated by more than 400 citations (Braxton, Sullivan, & Johnson, 1997). Many researchers have linked the SACQ to Tinto's theory. Downey (2005) indicated that the SACQ and Tino's model appear to have been developed both concurrently and independently, although the authors did not appear to be working together. In essence, integration into the college environment is a direct predictor of a student's decision to stay or leave college (Tinto, 1993). The commitment to educational goals at an institution may lead to the student's likelihood of persisting in the college environment, leading to a positive outcome (Tinto, 1993).

Tinto's theory played an important role in the current study, which supports this model as a predictor of student adjustment. However, Tinto's model does not reflect the

importance of the specific type of institution in which it is applied, as this study only measured adjustment in Division II athletes. More research in larger Division I institutions may have different outcomes as related to Tinto's model, due to different institutional experiences (formal and informal) existing that is related to student persistence at each level. In addition, it's possible that the pre-entry attributes (family background, skills and abilities, and prior schooling) aspect of Tinto's model could be different in smaller Institutions, which could alter levels of achievement in each area and also be reliant on geographical factors. The implications of Tinto's theory as it relates to this study adds to our knowledge as we discover the need for strong adaptation as a predictor of retention. Student departure is considerably affected by the overall college experience, which originates from the level of adjustment (Tinto, 1993). Different aspects of faculty teaching role performance, such as active learning and classroom size may serve as a factor of Tinto's Theory, as classroom behaviors could play a role in the social and academic integration of students inevitably leading to departure decisions (Braxton, Milem, & Sullivan, 2000).

Implications for Research and Recommendations

for Further Research

The current study allows for researchers of student adjustment and retention to gain a better understanding of the gaps that exist in the field. The findings of this study add to the understanding and body of knowledge in the areas of adjustment and integration in the college environment. Researchers with a particular interest in the student experience and college adjustment, specifically those studying effects of student-

athlete life would find the current study to have particular relevance. The NCAA would also find the present study to be useful, specifically for Division II athletes. However, this study does not particularly generalize the entire student-athlete population, as the research was limited to two research sites at small Institutions. Perhaps the focus of different sizes of schools would provide a broader understanding of student-athletes as a whole. In addition, the use of other states would be useful, as the geographical location could be a factor in the current study.

Particularly for the present study, all sub-samples (or groups) scored low in institutional attachment. Students who struggle with being away from home score low on social adjustment and institutional attachment scales and likely to leave school before graduation (Baker and Siryk, 1989). This would call for more research in the role attachment plays on student-adjustment. Perhaps research on post-graduates' experiences would give use an idea of what strategies were successful for retention.

A stronger understanding of the results is needed. A deeper examination of why these experiences occur would help to pinpoint how college personnel can improve the transition for student-athletes and non-athletes. Specifically, academic and social interactions should be more closely examined to determine what needs exist.

Different populations of students, such as community/junior colleges and bigger four-year (Division I) institutions, could be researched to get a better understanding of college adjustment in all academic environments. Student-athletes at Division I schools are likely to experience more pressure, which could play a role in adjustment. Another option could be to examine more than two universities to get a stronger response rate, with a wider range of students at different locations. Specifically, different states would

give a better idea of college adjustment in students across the nation and might add more generalizability to the study. In addition, more data on international students as compared to residential students would be interesting to explore and compare.

A different methodology should be considered as well. This study was a non-experimental quantitative study. Use of qualitative methods could give a more descriptive analysis of the college experience, and would add a richer understanding to this topic. Personal interviews with college students and student-athletes could be conducted with a smaller sample size to add a layer of personal interaction to the research. With more time to collect results, an ethnography could be useful and gain a first-hand analysis of the topic. Ethnographies are useful in qualitative research as it allows the researcher to embed themselves in the environment, allowing the readers to feel a “real life” aspect of the study. An ethnography would prove a natural setting for the researcher to evaluate the specific surroundings.

Moreover, there were coding issues in SPSS due to the conversion of the SACQ to electronic form. The MAR “missing at random” pattern was appropriately used when analyzing the data, which allowed missing data to eliminate responses for specific subscales, creating a lower or higher response rate for each area of adjustment. This could create an issue with possibly skewed data. Missing data and an already established electronic version of the instrument could eliminate these issues in future research. Currently, it is recommended by the researcher that the original “hard copy” version of the SACQ is used in future studies until a more current version of the instrument is established.

Implications and Recommendations for Practice

In the current study, levels of adjustment were measured among student-athletes and non-athletes, providing an idea of the gaps that exist in University departments. The perception of how we handle social, academic, personal/emotional, and attachment issues has changed as we learn more about the needs of these students. Specifically for student-athletes, who are now perceived as being able to excel academically compared to the “jock” reputation that existed many years ago. As shown from the results of this study, many student-athletes scored higher in academic adjustment than non-athletes, in addition to scoring higher in social adjustment.

To assist with academic adjustment issues, Universities should consider more advertisement of the academic support systems on campus to help students understand who to ask for help. Perhaps more support systems could be established in these universities, although lack of funding could be a contributing factor to the diminished amount of support personnel. In addition, more orientation for incoming students addressing issues including study skills, attending class, time management, and how to effectively meet with faculty or ask them questions.

To assist with personal and emotional adjustment, support groups for at-risk students, as well as mentorship and guidance from school personnel should be established. Counseling services can also be introduced early in the academic careers of all students through orientation or by talking to freshmen classes. Introducing this concept early would allow students to not fear the idea of seeking out a counselor if needed and will allow them to become familiar with the process of counseling.

More social involvement on campus would help to eliminate the lack of social adjustment on campus. Perhaps more mixers and socials among all groups (including athletic teams) could allow all students to be more social inclined on campus. Additional support in this area for upperclassmen could be implemented as well with the addition of more clubs and organizations on campus.

The low institutional attachment could be a result of the small size of the universities. More social involvement would help in this area, providing more “school spirit” which will increase the likelihood of student involvement and pride for the institution. Larger colleges and universities likely have more attachment due to the size of their athletic programs and a higher number of campus events. Overall, campus administrators and faculty can help to make adjustment to college more enjoyable for all students.

Specifically for coaches and athletic personnel, more focus can be placed on recruitment, while introducing the newly acquired student-athlete to University values and encouraging “life skills” to the individuals early in college. Introducing key concepts in adjustment could help professionals to identify issues early on that could affect the college experience and eventually lead to departure decisions.

Conclusion and Final Thoughts

Findings for this study show the differences that exist between student-athletes and non-athletes in several areas of college adjustment. The different subscales showed us that overall adjustment is in fact contributed from different areas of interaction. As in Tinto’s theory, there are social and academic factors that affect college adjustment. For some individuals, one certain area of college could be the one factor that influences a

student's decision to leave or stay. Lack of satisfaction in college could be related to any number of academic, social, or personal/emotional issues. As a former academic advisor for athletics, the researcher has seen firsthand dropout that happens when a student-athlete is not well adjusted. In some cases, student-athlete simply leave college as soon as athletic eligibility is exhausted. A better understanding of what we can do to make the experience better might prevent this phenomenon from occurring.

As a current faculty member, it is important to understand how we can positively affect our students. A positive classroom experience can improve the integration of a student. By encouraging social interaction in addition to academic-related aspects of the college experience, we can increase student adjustment as well as overall institutional attachment. Colleges and Universities are encouraged to build positive relationships with their students and promote higher quality support programs that could make a better experience for college students and prevent student attrition.

The current study is important to researchers and practitioners in the student development and athletic fields, as it increases awareness of the issues that exist related to student satisfaction. Perhaps the current study could increase the need for further studies on college adjustment which will continue to be an increasingly prevalent topic. For student-athlete professionals, more information on student-athlete adjustment will show the demands placed on competitive athletes and promote better practices when supporting these individuals. A better understanding will only help us improve the perspectives and experiences of student-athletes and non-athletes alike.

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APPENDIXES

APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

Please indicate the appropriate response or write in the most appropriate response for you.

1. Age: _____ 2. Date of Birth: _____

3. Gender: Male _____ Female _____

4. Race: Caucasian _____ African American _____

Asian American _____ Native American _____

Hispanic American _____

Biracial (indicate which races) _____

Other (please indicate)

5. Class Standing: Freshman _____ Sophomore _____
Junior _____ Senior _____ Graduate _____

6. What is your planned major at this time?

7. Is this your first semester of college at any university?

Yes ____ No ____

8. Did you transfer from another university? Yes ____ No ____

9. What was your final high school grade point average?

(On a 4.0 scale: _____)

10. Please indicate your home state or country (if not from the U.S.):

11. Please indicate your home city:

12. What is your family's approximate current household income?

\$0-\$30,000 ____ \$30,001- \$60,000 ____ \$60,001-\$90,000 ____
\$90,001 + ____

13. Please provide the following information on your family's college history

(Circle the highest level of attainment that applies for each person):

Father **Did Not Attend College**
 Attended Some College
 Graduated from College

Mother **Did Not Attend College**
 Attended Some College
 Graduated from College

Sister (s) **Did Not Attend College**
 Attended Some College
 Graduated from College

Brother (s) **Did Not Attend College**
 Attended Some College
 Graduated from College

No person in my family has either attended or graduated from college.

14. Are you currently a student-athlete? Yes ____ No ____ If no, were you previously a college student-athlete? Yes ____ No ____

15. If you are a student-athlete, please indicate what sport you play: _____

16. Did your sport require that you come to campus prior to the fall semester for the purpose of preseason practice? Yes ____ No ____

17. Have you been red shirted for this season? Yes ____ No ____

18. If you are no longer a student-athlete, why?

APPENDIX B

THE STUDENT ADAPTATION TO COLLEGE QUESTIONNAIRE (SACQ)

The Student Adaptation to College Questionnaire (SACQ)

by Robert W. Baker, Ph.D. and Bohdan Siryk, M.A.

12031 Wilshire Boulevard

Los Angeles, California 90025-1251

Version: 3.000

Copyright (c) 1989 by Western Psychological Services

The SACQ is a 67-item questionnaire designed to measure the effectiveness of student adjustment to college. There are four subscales: Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Attachment. The Academic Adjustment subscale measures a student's success at coping with the various educational demands characteristic of the college experience. The Social Adjustment subscale contains items relevant to the interpersonal-societal demands of college. The Personal-Emotional subscale is designed to examine how a student is feeling psychologically and physically. The Attachment subscale focuses on a student's satisfaction with the college experience in general and with the college he or she is attending in particular.

The SACQ is appropriate for use with students at any time during their undergraduate career.

ACADEMIC ADJUSTMENT

Motivation (6 items)

Application (4 items)

Performance (9 items)

Academic Environment (5 items)

SOCIAL ADJUSTMENT

General (7 items)

Other People (7 items)

Nostalgia (3 items)

Social Environment (3 items)

PERSONAL-EMOTIONAL ADJUSTMENT

Psychological (9 items)

Physical (6 items)

ATTACHMENT

General (3 items)

This College (4 items)

APPENDIX C

IRB APPROVAL LETTER FOR OSU

Oklahoma State University Institutional Review Board

Date: Friday, December 8, 2017
IRB Application No ED17143
Proposal Title: An examination of the influence of a athletic participation on college adjustment
Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 12/7/2020

Principal Investigator(s):
Nicolas Stowers Mary Jo Self
261 Willard
Stillwater, OK 74078 Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

- 1Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
- 2Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
- 3Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
- 4Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Scott Hall (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,


Hugh Crethar, Chair
Institutional Review Board

APPENDIX D

IRB APPROVAL LETTER FOR ECU



1100 E. 14th Street, PMB C-8 • Ada, OK 74820-6999
(580) 559-5204 office • (580) 559-5788 fax

Adrianna Lancaster, PhD
Acting Provost and
Vice President for Academic Affairs

February 1, 2018

IRB Title: "An Examination of the Influence of Athletic Participation on College Adjustment"
ECU IRB#: FY18-36

Dear Mr. Stowers:

The above research proposal has been approved by East Central University's Institutional Review Board (IRB). This is approval for continuation of a previously approved application/study. Please use East Central University's IRB number, found above, in all your correspondence with ECU.

You are authorized to begin your research and implement this study using the date of this letter. This authorization is valid for one year after approval of your study. If this authorization expires, you are required to submit a continuation or renewal request for board approval.

Finally, this approval is granted with the understanding that the research will be conducted as described in your application. Any changes or modifications to the approved protocols should be submitted to East Central University's IRB for approval, if said changes could substantially affect the safety, rights and welfare of your study's participants.

If further assistance with the approval or implementation of the study is needed, please contact Dr. Mark Klippenstine at mklippen@ecok.edu or 580-559-5342.

Sincerely,

Adrianna Lancaster, PhD
Acting Provost and Vice President for Academic Affairs

AL:kad

Oklahoma's Premier Student-Centered Regional University

APPENDIX E

IRB APPROVAL LETTER FOR RSU



OFFICE OF THE VICE PRESIDENT FOR ACADEMIC AFFAIRS

February 1, 2018

To Whom It May Concern:

Nick Stowers has been granted permission to interview administrators and/or faculty at Rogers State University with regard to his qualitative research for his doctoral studies at Oklahoma State University. His request has been cleared internally with campus administration and with the OU IRB who assists RSU with IRB compliance.

Sincerely,

A handwritten signature in black ink that reads "Richard Beck".

Dr. Richard Beck

APPENDIX F

PERMISSION CERTIFICATE FROM WPS

Rights & Permissions

Certificate of Limited-use License

License #:

WPS-000884

Date:

December 19, 2017

Principal Investigator's name and title:

Nicolas Stowers

Name of the Assessment:

Student Adaptation to College Questionnaire (SACQ)

Permitted number of uses:

200

Description of the study:

Examining the relationship of student-athlete adjustment to non-athlete adjustment.

Reference terms dated 14Nov'17 (replaces agreement of 25Oct'17).

Method of administration:

Administration and scoring via a secure, password-protected online environment.

The required copyright notice that must be affixed in its entirety to each reprint/viewing of the assessment:

Material from the SACQ copyright © 1989, 1999 by Western Psychological Services. Format adapted by N. Stowers, Oklahoma State University, for specific, limited research use under license of the publisher, WPS (rights@wpspublish.com). No additional reproduction, in whole or in part, by any medium or for any purpose, may be made without the prior, written authorization of WPS. All rights reserve.

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VITA

Nicolas A. Stowers

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EXAMINATION OF THE INFLUENCE OF ATHLETIC
PARTICIPATION ON COLLEGE ADJUSTMENT

Major Field: Workforce and Adult Education

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Workforce and Adult Education at Oklahoma State University, Stillwater, Oklahoma in May 2018. Completed the requirements for the Master of Education in Sports Management at Southwestern Oklahoma State University, Weatherford, Oklahoma in 2012. Completed the requirements for the Bachelor of Science in Kinesiology at East Central University, Ada, Oklahoma in 2010.

Experience:

Assistant Professor of Sports Administration/Kinesiology at East Central University, August 2016 – Present. Assistant Athletic Director for Student Development and Adjunct Instructor of Health Sciences at Rogers State University, January 2014- August 2016. Assistant Director for Student life, Intramural Sports and Recreation at Oklahoma City University, July 2012- January 2014.

Professional Memberships:

The National Intramural-Recreational Sports Association (NIRSA); National Association of Academic Advisors for Athletics (N4A); Oklahoma Association of Health, Physical Education, Recreation, and Dance (OAHPERD); North American Society for Sport Management (NASSM).